Zoning Board of Appeals
Application for Special Permit and Site Plan Review

1400 Lowell Road
Parcel 1533

120' Monopole

Prepared for:

Town of Concord, MA
141 Keyes Road
Concord, MA 01742

Prepared By:

Industrial Tower and Wireless, LLC
40 Lone St
Marshfield, MA 02050

Industrial Communications

Industrial Communications & Electronics, Inc.
Industrial Tower and Wireless, LLC
Industrial Communications, LLC

40 Lone Street
Marshfield, Massachusetts 02050
781-319-1111 • Fax 781-837-4000

December 1, 2016

Town of Concord
Zoning Board of Appeals
141 Keyes Road
Concord, MA 01742

Re: **Application for Special Permit and Site Plan Review**

Property Address: Middlesex School
1400 Lowell Road
Assessor's Map F03, Parcel 1533

Applicant: Industrial Tower and Wireless, LLC

Dear Honorable Members of the Zoning Board of Appeals:

Industrial Tower and Wireless, LLC (ITW) formally submits this Application for a Special Permit and Site Plan Review under Section 7.8 of the Zoning Bylaw – Personal Wireless Communications Facilities. This project is to provide a permanent re-location of personal wireless communication services (PWCS) antenna and equipment from the Middlesex School's smokestack to behind the ice rink facility. The purpose of the relocated PWCS facility is to provide the residents, motorists, public safety officials and on-campus faculty and students with more reliable wireless service in this area.

ITW has entered into agreement with Middlesex School to design, permit, build, lease and own the communications tower. This business relationship allows Middlesex School to pass all of the responsibility of tower management to ITW in an efficient manner.

ITW, founded in 1974, is an established wireless communications company, providing unique communication solutions to businesses throughout New England and South Florida. Our company headquarters is conveniently located 30 miles south of Boston in Marshfield, Massachusetts. ITW offers an extensive inventory of strategically located tower sites throughout New England, South Florida, Colorado, Kansas, Nebraska and Wyoming, with first class state-of-the-art tower facilities.

As an industry leader for more than 40 years, ITW has set the standard for wireless facility construction and management services. We provide build-to-suit or turnkey communication facilities as well as offering collocation and complete build-out capabilities. Dedication and attention to detail is evident throughout the thousands of installations completed by ITW's experienced construction and management teams.

FACILITY

The proposed communications facility will consist of a short gravel access driveway and leased area of 64' x 64'. This crushed stone surface compound will have a chain-link perimeter security fence, a shared emergency natural gas generator, and space for four (4) personal wireless communication service shelters or concrete pads with communications equipment, and additional supporting infrastructure. The proposed antenna tower will consist of a 120' monopole with antennas for each carrier. The current wireless carriers that will be relocated include T-Mobile, Verizon Wireless and AT&T.

ALTERNATE LOCATIONS

During the past year, many locations on the Middlesex School property have been researched. Permanent and temporary locations have been designed and studied, site walks and approvals have been granted.

Other campus locations have been rejected by the development team because of factors such as wetlands impacts, zoning restrictions, coverage studies and limitations, and distance from existing utilities. Also a major consideration was the potential visual impacts that a new location would have on the community.

ITW has studied alternate upland locations such as behind the Barn on the west side of Lowell Road and the upland area along Westford Road. There were significant issues to these sites because of the lack of existing utilities. The view corridor and open space for the abutters along Lindsay Pond Road, Westford Road and Lowell Road would be impacted by the relocation of the personal wireless communications equipment. The East Fields adjacent to the tennis courts has also been studied. This area of campus is further away from the coverage objective and outside of the Wireless Communications Facility Overlay District.

The proposed location is within the Wireless Communications Facility Overlay District and provides excellent coverage to the Lowell Road area and campus. This location has access to existing utilities and roadways, located behind the ice rink places the equipment in an area that is hidden from abutter's views along Lowell Road.

This location has been selected and designed with low impact development (LID) criteria in mind and as such the proposed communication compound will be located outside of the 50' No Build Line, tree cutting and land disturbance. This area will include a crushed stone compound surface with buried geotextile fabric for the entire 64' x 64' compound to provide immediate groundwater recharge to the maximum extent practicable. In addition, an extensive planting restoration plan is incorporated into the project.

SUBMITTALS

The following materials are submitted to support the installation of the proposed wireless facility.

TAB #	CONTENTS
1	Zoning Board of Appeals Application Abutters List Request Form Community Newspaper – Legal Notice Form Legal Notice – Balloon / Crane Test
2	Project Site Plans – 11 sheets
3	Verizon – Affidavit of Radio Frequency Engineer, Verizon Plots and Existing Site Address AT&T – Affidavit of Radio Frequency Engineer, AT&T Plots and Existing Site Address T-Mobile – Affidavit of Radio Frequency Engineer, T-MO Plots and Existing Address
4	Haes Report – Radiation Safety Specialist
5	Federal Aviation Administration – No Hazard Letter – Dated 10/18/16 Massachusetts Division of Fisheries
6	Picture of Existing Antennas Picture of Proposed Location Tower Facility Color Board Picture of Similar Facilities Typical Removal Estimate Typical Signage

Industrial Tower and Wireless, LLC respectfully request that the Concord Zoning Board of Appeals grant a Special Permit and Site Plan Approval under Section 7.8 of the Zoning Bylaw – Personal Wireless Communications Facility for the re-location of the communication equipment to a new tower behind the ice rink facility.

Sincerely,

Kevin J. Fadden
Industrial Tower & Wireless, LLC

Town of Concord
Zoning Board of Appeals
141 Keyes Road
Concord, MA 01742
Tel: (978) 318-3295
www.concordma.gov

Zoning Board of Appeals Application

Special Permit with Site Plan Review

Town Use Only

Received by Clerk of the Board: Town Clerk Stamped Received

Application Fee:_____ Hearing Date:_____

1 Application Information

This Application is for: ☒ Special Permit ☒ Site Plan Review ☒ Wireless Communications Facilities

☐ Variance ☐ Planned Residential Development ☐ Comprehensive Permit

Sections of the Zoning Bylaw Applicable to Application:

Under Section 7.8 of the Zoning Bylaw - Personal Wireless Communications Facility.

2 Property Information

Address: 1400 Lowell Road

Parcel ID #: 1533

Zoning District RAA (Residential AA)	Total Land Area 289 acres
Present Use: vacant land	Lot Frontage: 3500'
Proposed Use: wireless communications tower	Deed Book & Page #: 7674 / 598

Check all Applicable:

☐ Historic District	☐ White Pond Advisory Area
☑ Wetlands Conservancy District	☑ Wireless Overlay District
☐ Flood Plain Conservancy District	☑ 100' Wetland Buffer Zone
☐ Groundwater Conservancy District	☐ 200' River's Act Area
☐ Property Identified in the Open Space Plan	☐ Property Identified in the Historic Resource Plan

Is any Zoning relief being requested? If yes, explain:

The project will require a Special Permit and Site Plan Review from the ZBA

3 Proposed Project

Provide a brief narrative of the project description:

Relocate the antenna and equipment from the smokestack to a new 120-foot tall monopole telecommunications tower within a 64' X 64' fenced area behind the ice rink facility.

Ground Coverage by Buildings and Pavement			Gross Floor Area (GFA) (6'8" in height or greater)
Existing:	=	% of Site	Existing:
Additional Proposed:	=	% of Site	Additional Proposed:
Total Proposed:	=	% of Site	Total Proposed:

Breakdown of proposed use(s) by GFA

Use:	GFA:
Use:	GFA:
Use:	GFA:
Use:	GFA:

Describe in terms of any other units of measurement the use of occupancy of the building(s) such as maximum seating capacity, number of employees, number of tables, etc…:

N/A

Effect of the project on public services, such as water, sewer, schools, police, fire, waste disposal, and recreational facilities:

The proposed telecommunications facility will not result in an increase in water and sewer demand. The new facility will improve coverage and the Concord Fire Department is interested in locating some of the Town's antenna equipment on the relocated tower. The project will have no negative effect on public schools, police, waste water disposal or recreational facilities.

4	**Supplemental Information**		
Parking Spaces			Loading Spaces N/A
Existing: N/A	=	% of Site	Existing:
Additional Proposed:	=	% of Site	Additional Proposed:
Total Proposed:	=	% of Site	Total Proposed:

How many vehicles are used for business and parked on site: After construction 1 visit per mo/carrier

Estimated traffic flow within the Site	Estimated traffic flow on streets adjacent to the Site
A.M. Peak: N/A	A.M. Peak: N/A
P.M. Peak: N/A	P.M. Peak: N/A
Proposed Water Supply: N/A	If Town water, estimated demand (gals/day):

Are water conservation measures provided? ☐ Yes ☑ No

If Yes, explain:

There is no Town water or sewer involved with this project

Proposed Sewage Disposal: N/A	If Town sewer, estimated demand (gals/day):
Amount of grading (cubic yards):	cut fill

Will the project require the removal of soils from the site? ☐ Yes ☑ No

If Yes, how many cubic yards and where is soil being relocated:

Does Project require the removal of any trees greater than 2' or major screening vegetation? ☑ Yes ☐ No

If Yes, explain:

There will be the removal of 34 trees to construct the compound. A restoration plan has been developed and is being reviewed by the NRC. This plan includes the replanting of 14 trees and 24 shrubs.

Is work located within? ☐ 25' or ☑ 100' of a wetland and/or ☐ 200' of a river or stream

If Yes, explain how and what measures are taken to mitigate impacts:

A Notice of Intent has been filed with the Natural Resources Commission that describes the proposed mitigation. Appropriate erosion control measures will be incorporated.

Has a permit been applied for under M.G.L. Chapter 131 Wetlands Protection Act? ☑ Yes ☐ No

5 Property Owner/Applicant Information

The undersigned hereby certifies that he/she has read and examined this application, the Board of Appeals Procedures and Checklist and that the proposed project is accurately represented in this Application and supporting documentation, and hereby requests a hearing before the Board of Appeals with reference to the above application.

Property Owner(s) Name: Middlesex School c/o Matthew Crozier, COO

Address: 1400 Lowell Road

Phone: 978-371-6585 | E-Mail: mcrozier@mxschool.edu

Signature: [signature] | Date: 11/29/16

Property Owner(s) Name:

Address:

Phone: | E-Mail:

Signature: | Date:

Applicant(s) Name: Industrial Tower and Wireless, LLC - Thomas Lennon, VP

Address: 40 Lone Street, Marshfield, MA 02050

Phone: 781-319-1111 | E-Mail: tom.lennon@induscom.com

Signature: Thomas Lennon | Date: 11/30/16

Applicant is: ☐ Owner ☑ Tenant ☐ Agent/Attorney ☐ Purchaser

Applicant(s) Name:

Address:

Phone: | E-Mail:

Signature: | Date:

Applicant is: ☐ Owner ☐ Tenant ☐ Agent/Attorney ☐ Purchaser

6 Building Inspections Division Review

To avoid project delays, this Application and all supporting documentation should be reviewed by a Concord Building Inspector prior to filing with the Town Clerk. It is the Applicant's responsibility to schedule an appointment to meet with a Building Inspector at least two weeks before the application submission deadline. Incomplete applications will not be signed by a Building Inspector.

This completed Application has been reviewed by a Concord Building Inspector.

Signature of Building Inspector: [signature] Date: 11/18/16

SPECIAL PROVISIONS

7.8 Personal Wireless Communications Facility

7.8.1 Purpose and Intent: The purpose of this Section is to establish a district within the Town in which personal wireless communication facilities may be provided, to regulate their impacts and to accommodate their location and use in a manner which:

(a) protects the visual, aesthetic, scenic, historic, environmental and natural or man-made resources of the Town;

(b) encourages the use of existing structures and towers;

(c) protects property values;

(d) minimizes the total number and height of towers located within the community by requiring tower sharing and clustering of personal wireless communication facilities where possible;

(e) minimizes any adverse impacts on the residents of the Town (such as, but not limited to, visual blight on viewsheds, attractive nuisance, noise and falling objects) with regard to the general safety, welfare and quality of life in the community;

(f) provides standards and requirements for regulation, placement, construction, monitoring, design, modification and removal of personal wireless communication facilities; and

(g) provides a procedural basis for action within a reasonable period of time for requests for authorization to place, construct, operate or modify personal wireless communication facilities;

The intent of this Section is to be in compliance with the federal Telecommunications Act of 1996.

The proposed Facility is located within the Wireless Communications Facility Overlay District and is a relocation of the existing antennas and equipment from the smokestack to an area behind the ice rink facility. The 120-foot monopole and base station equipment will be located with a secured 64 x 64-foot compound surrounded by a 6 foot high chain link fence. The proposed site will be located approximately 600- feet from the nearest single family structure. There will be no change in circulation or traffic patterns nor will the Facility effect pedestrian movement. The Facility is unmanned and will not generate additional traffic. Once constructed, traffic will be limited to one or two trips per month, on average per carrier. There will be no need for additional parking. Neither land, water nor air quality are affected by this Facility. The Facility will not require municipal resources. The Facility will have no effect on water, sewer, DPW, fire or police services and will have no impact on schools.

7.8.4.1 *Adequate coverage, adequate capacity and justification of need:*

(a) The applicant shall provide written documentation of any facility sites in the Town and in abutting towns in which it has a legal or equitable interest, whether by ownership, leasehold or otherwise. Said documentation shall demonstrate the following: that these facility site(s) are not already providing, or do not have the potential, by adjusting the personal wireless communication facility on the site(s), to provide adequate coverage and/or adequate capacity; that there is a significant gap in coverage; and, that the proposal reduces or eliminates the significant gap in coverage in a manner that is least intrusive upon the interests of the Town as expressed in the purpose and intent of this Section. A "gap" in coverage exists when a remote user of personal wireless communication services is unable to either connect, directly or indirectly, with a base station or to maintain a connection capable of supporting a reasonably uninterrupted communication. A "significant gap" depends upon the physical size of the gap and upon the number of customers affected by that gap. Documentation shall include, for each facility site listed, the exact location, ground elevation, height of tower or structure, type of antennas, antenna gain, height of antennas on tower or structure, output frequency, number of channels, power input and maximum output per channel. Potential adjustments to these existing facility sites, including changes in antenna type, orientation, gain, height or power output shall be specified. Radial plots from each of these facility sites, as they exist and with adjustments as above, shall be provided as part of the application.

The enclosed coverage maps and analysis demonstrate that Verizon, AT&T and T-Mobile has analyzed the potential adjustments to their existing facilities and that such adjustments cannot be used to close significant gaps in coverage. See Tab 3.

(b) The applicant shall provide written documentation that they have examined all personal wireless communication facility sites located in the town and in abutting towns in which the applicant has no legal or equitable interest to determine whether those existing facility sites can be used to provide adequate coverage and/or adequate capacity. Documentation shall include all information outlined above. Radial plots from each of these facility sites as proposed shall also be provided.

See attached affidavit of radio frequency expert and radio frequency propagation plots under Tab 3.

(c) The applicant shall provide written documentation (including radial plots) that they have analyzed the provision of adequate coverage and adequate capacity through the use of filler sites in conjunction with all personal wireless communication facility sites listed above.

The enclosed coverage maps and analysis demonstrate that Verizon, AT&T and T-Mobile have analyzed the use of filler sites, and that such sites cannot be used to close significant gaps in coverage. See Tab 3

(d) The applicant shall provide a map of all proposed facilities to be applied for over the next twenty (20) months (or a complete build-out analysis) by the personal wireless communication service provider. Such map shall also include any and all existing personal wireless communication facility(s) of the provider and known proposed facilities or other personal wireless communication service providers.

See attached affidavits of radio frequency experts and radio frequency propagation plots under Tab 3.

(e) The applicant shall provide written documentation that the applicant has examined potentially viable personal wireless facility sites in the overlay districts in the town and relevant sites in abutting towns that could provide adequate coverage and capacity in the town, including the existing structures and open areas that comply with the relevant zoning bylaws of those towns and are consistent with Section 7.8.1 *Purpose and Intent (a)* through *(e)*. The applicant shall list all such sites examined and state fully and completely the rationale for rejecting any such sites that are less intrusive upon the interests of the Town than the site(s) for which application is being made.

The relocation of the existing Verizon, AT&T and T-Mobile antennas and equipment to the new location behind the ice rink facility is the only feasible means by which the applicant can continue to provide reliable service coverage.

7.8.4.2 General requirements:

(a) New towers shall be set back a distance at least equal to the height of the tower from all lot lines of the site on which the tower is located, unless the tower has been designed to break away at a certain point above the ground, in which case the new tower may be set at least the breakaway distance from all lot lines.

The proposed relocated tower is a 120-foot monopole design and is setback a distance of 316-feet from the nearest property line. See sheet C-1 under Tab 2

(b) If the facility site is in a wooded area, a vegetated buffer strip of undisturbed trees shall be retained around the entire perimeter of the personal wireless communication facility site for at least the lesser of (i) the distance to the lot line or (ii) fifty (50) feet. The landowner shall enter into a recordable easement, restriction, or similar instrument enforceable by the Town to ensure that the buffer strip is retained while the facility site is in place.

The Applicant and Property owner agree to this requirement as no vegetation will be removed. The applicant has designed a mitigation and restoration plan. See sheet C-4 under Tab 2.

(c) Fencing and signs: the area around the tower and communication equipment shelters shall be completely fenced for security to a height of six feet and gated (unless the communication equipment shelter is otherwise secured). Use of razor wire is not permitted. A sign shall be posted adjacent to the entry gate indicating the facility owner(s) and a 24-hour emergency telephone number and any legally required radio-frequency warning sign shall be posted in an appropriate location. Commercial advertising on any antenna, tower, fencing, accessory building or communication equipment shelter is prohibited.

The proposed Facility will be located within a 64 x 64-foot compound that will be secured by a 6-foot high chain link fence. Signage will be limited to that needed to display emergency phone numbers and site identification. See sheets A-1 and A-2 under Tab 2.

(d) Communication equipment shelters and accessory buildings shall be designed to be architecturally similar and compatible with each other and the surrounding area. The building shall be used only for the housing of equipment related to the site. Whenever practical, the buildings shall be located underground. Additional supplemental landscape screening may be required by the Board to lessen adverse visual impacts.

The base station equipment is contained within all weather-outdoor shelters. Similarly, as both sets of shelters will not exceed the height of the fencing, the adverse visual impact is limited. The accompanying plans depict the layout and specifications of the shelters and cabinets within the compound area. See sheets A-1 and A-2 under Tab 2.

(e) New towers shall not exceed the minimum height necessary to provide adequate coverage for the personal wireless service facilities proposed for use on the tower, unless the Board determines that co-location with another service provider is desirable, suitable and consistent with this Section. In areas where there is no significant tree canopy, the maximum height of a tower shall not exceed one-hundred-twenty (120) feet above finished grade of the ground elevation. Such finished grade shall not be distorted above the pre-existent natural grade as a way to achieve additional height.

In areas where there is significant tree canopy, the maximum height of a tower shall not exceed twenty (20) feet above the average height of the natural pre-existent tree canopy within a one-hundred fifty (150) foot radius of the tower.

The Board may permit an increase in the height of a tower, or attachment thereto, to facilitate co-location, provided the Board determines that no material increase in visual impacts will result from the increased height, but in no case shall the height exceed one-hundred fifty (150) feet.

The design of the tower and supporting base structure shall accommodate an ultimate height of whatever is approved by the Board.

The proposed 120-foot monopole is designed to support four (4) wireless service providers, and is the minimum height needed by Verizon, AT&T and T-Mobile to close the gaps in their respective

coverage areas.

(f) If primary coverage from the proposed personal wireless communication facility (greater than 50%) is outside the Town of Concord, the permit may be denied unless the Applicant can show that they are unable to locate within the Town which is primarily receiving service from the proposed facility.

As demonstrated by the enclosed maps and analysis under Tab 3, more than 50% of the primary coverage from the proposed Facility is within the Town of Concord.

(g) A personal wireless communication facility proposed to be located on an existing, suitable, non-residential structure or tower for which an occupancy permit was issued as of January I, 2001 and located within this district, shall not exceed the height of such structure by more than twenty (20) feet.

The above section is not applicable to the proposed Facility, which was not subject to an occupancy permit as of January 1, 2001.

(h) Unless required by the Federal Aviation Administration or Emerson Hospital medi-flight program, .no exterior night lighting of towers or the personal wireless communication facility is permitted except for manually operated emergency lights for use when operating personnel are on site.

The Federal Aviation Administration has reviewed the proposed facility and determined that neither markings nor lighting is required. The proposed Facility will not affect the Emerson Hospital medi-flight program. Under Tab 5 is the FAA letter of Determination of No Hazard To Air Navigation.

(i) A personal wireless communication facility subject to jurisdiction by the Federal Aviation Administration (FAA) shall be designed to minimize, to the extent feasible, adverse visual effects upon existing single-family detached dwellings and historic or scenic viewsheds. No new tower that requires striping or lighting per FAA requirements shall be located within one-thousand (1000) feet of an existing school, day care center, single-family detached dwelling or historic resource.

The Federal Aviation Administration reviewed the proposed facility and determined the neither markings nor lighting is required. Under Tab 5 is the FAA letter of Determination Of No Hazard To Air Navigation.

(j) No new tower for a personal wireless communication facility, shall be located within:

1. One thousand (1000) feet, on a horizontal plane, to any existing structure which is, or is able to be, occupied or habitable on the property of any existing child care facility or school;

The proposed new Facility, is located approximately 500' north of the existing smokestack antennas and equipment on the Middlesex School campus. The Applicant request that the Board grant a waiver pursuant to Section 7.8.4.5 as the site is necessary to provide adequate coverage for Verizon, AT&T and T-Mobile and the monopole style will be minimally intrusive to the Town and neighbors.

2. One thousand (1000) feet on a horizontal plane, to the structure of an existing single-family detached dwelling;

The proposed Facility is located approximately 600-feet from the nearest single-family detached dwelling. The Applicant request that the Board grant a waiver pursuant to Section 7.8.4.5 as the site is necessary to provide adequate coverage. There is also over 500-feet of wooded buffer between the proposed compound and the dwellings to the north.

3. One thousand (1000) feet on a horizontal plane, to any structure in an Historic District, or listed, or eligible to be listed, on the state or federal Register of Historic Places;

The proposed Facility is more than 1000 feet from any structure in a Historic District or listed on the state or federal Register of Historic Places.

4. Town, Massachusetts, or federally regulated bordering vegetated wetland;

The proposed Facility is not located in a Massachusetts or federally regulated vegetated wetland.

5. A Massachusetts certified vernal pool;

The proposed Facility is not located in a Massachusetts certified vernal pool.

6. The habitat of any Massachusetts listed rare or endangered wildlife or rare plant species;

The Commonwealth of Massachusetts Division of Fisheries and Wildlife has determined that this project will not adversely affect the actual Resource Area Habitat of state-protected rare wildlife species. See letter dated September 21, 2016 under Tab 5.

(k) New personal wireless communication facilities in or on an existing, suitable, non-residential structure or tower for which an occupancy permit was issued as of January 1, 2000 shall be located at least:

i. five hundred (500) feet, on a horizontal plane, from any existing structure which is, or is able to be, occupied or habitable on the property of a child care facility or school;

ii. three hundred (300) feet, on a horizontal plane, from the structure of an existing single-family detached dwelling; or.

iii. three hundred (300) feet, on a horizontal plane, from any structure in a Historic District or listed (or eligible to be listed) on the State or Federal Register of Historic Places.

The above section is not applicable to the proposed Facility, which was not subject to an occupancy permit as of January 1, 2000.

(l) The following locations are ranked in order of preference and are encouraged:

i. personal wireless communication facility sites that are most distant from single-family detached dwellings and schools.

ii. municipal lands which comply with other requirements of this section.

iii. where the visual impact of towers can be minimized by the use of camouflage, stealth design or other innovative measures to reduce, eliminate or disguise the negative visual impact.

iv. filler sites to provide adequate coverage without requiring new towers.

v. existing personal wireless communication facility(s).

The Applicant proposes to relocate a multi-carrier facility on school property approximately 600-feet from the closest single family residence. This area is in the Wireless Communications Facility Overlay District in an area where visual effects are minimized.

(m) Personal wireless communication facilities shall be located so as to provide adequate coverage and adequate capacity with the fewest number of base stations, towers and antenna arrays that are technically feasible. The Board may limit the number of base stations, towers and antenna arrays upon any single parcel. The Board may limit the number of base stations, towers and antenna arrays in any given overlay district.

This is a relocation of the existing smokestack antennas and equipment to a new location to provide adequate coverage and capacity to close the significant gaps in coverage that would exist in Concord. Additionally, the tower is designed to accommodate four (4) carriers, thereby reducing the overall number of freestanding wireless communication facilities in the Town.

(n) Subsequent applicants are required to co-locate and shall submit an application to add to existing towers, installed under the provisions of this Bylaw.

Verizon, AT&T and T-Mobile are proposing to collocate on the proposed Facility.

(o) The Board shall request input from the Fire, Police and other town emergency services regarding the adequacy for emergency access to the site.

The site is located directly off Pratt Road, and will have easy access if town emergency services are ever needed.

(p) Balloon test: Within 35 days of submitting an application, the applicant shall arrange to fly, or raise upon a temporary mast, a three foot diameter brightly colored balloon at the maximum height and at the location of the proposed tower. The date(s) (including a second date, in case of poor visibility on the initial date), times and location of the balloon test shall be advertised, by the applicant at seven (7) and fourteen (14) days in advance of the first test date in a newspaper with a general circulation in the Town. The applicant shall inform the Board and the Planning Board in writing of the dates and times of the test at least fourteen days in advance. The balloon shall be flown for at least five consecutive hours between 7:00 a.m. and 5:00 p.m. on the date(s) chosen. The applicant shall bear any and all expenses associated with such balloon test.

The Applicant will make arrangements to conduct a balloon test at the direction of the Board.

7.8.4.3 Evaluation by independent consultants: Upon submission of a complete application for a special permit under this Section, the Board shall engage the services of a qualified independent consultant and shall provide the independent consultant with the completed application and existing documentation for analysis and review. The independent consultant shall gather additional documentation and conduct additional research as necessary to support the analysis and review. Access to the site to conduct any necessary site visits shall be provided to the qualified independent consultant. The qualified independent consultant shall submit to the Board a written recommendation and an opinion as to the conformance of the application with the requirements of this Section.

The Applicant will work with the Board and Independent consultant to provide materials at their request.

7.8.4.4 Fees and insurance: Personal wireless service facilities shall be continuously insured by the owner(s) against damage to persons or property. The owner(s) shall provide a Certificate of Insurance to the Building Inspector on an annual basis in which the Town shall be specifically listed as an additional insured. A schedule of fees for personal wireless service facilities permitting and renewal, any monitoring of emissions and inspection of structures, and any other fees shall be established by the Board as part of the Rules and Regulations for Personal Wireless Communication Facility(s).

The applicant will provide a Certificate of Insurance to the Building Inspector on an annual basis in which the Town shall be listed as an additional insured.

7.8.4.5 Relief from general requirements: The Board may, upon advice of the Planning Board and a qualified independent consultant, grant relief from the general requirements contained in subsection 7.8.4.2 (rather than require an applicant to seek a variance from this Bylaw) where the Board finds that the relief is supported by the submittal of a study prepared by a qualified technical consultant showing a significant gap in coverage, where the Board finds that the extent of the granted relief is mitigated by a showing that the project provides a minimally intrusive viable means of reducing or eliminating such significant gap in coverage, and where the Board finds that the desired relief may be granted without substantial detriment to the neighborhood and without derogating from the intent and purpose of this Bylaw. However, the Board shall not grant relief from the maximum height limitation in subsection 7.8.4.2(e). The Board shall be empowered to grant relief from any setback requirement in subsection 7.8.4.2(i), (j) or (k) provided that the site proposed is demonstrated to be necessary to achieve adequate coverage or capacity and to be minimally intrusive upon the interests of the Town, consistent with Section 7.8.1 *Purpose and Intent (a)* through *(e).* The applicant shall provide the Board with a written statement describing why the requested relief is in the best interest of the Town with references to Section 7.8.1 *Purpose and Intent (a)* through *(e)."* ***The Applicant request that the Board grant a waiver pursuant to Section 7.8.4.2 (j) 1&2 as the site is necessary to provide adequate coverage for Verizon, AT&T and T-Mobile.***

7.8.4.6 Approval criteria: A special permit shall be issued under this section only if the

Board shall find that the project is in harmony with the general purpose and intent of this Section. In addition, the Board, in consultation with the independent consultant referred to in subsection 7.8.4.3 shall make all the applicable findings before granting the special permit, as follows:

(a) that the applicant is not already providing adequate coverage and/or adequate capacity and that a significant gap in coverage exists;

See Affidavits from Verizon, AT&T and T-Mobile under Tab 5.

(b) that the applicant is not able to use existing personal wireless communication facility site(s) either with or without the use of filler sites to provide adequate coverage and adequate capacity;

See Affidavits from Verzion, AT&T and T-Mobile under Tab 5.

(c) that the proposed personal wireless communication facility site selected by the applicant minimizes adverse impacts on historic resources, scenic views (viewsheds) and residential property values by being located most distant from historic resources, scenic views (viewsheds) and single-family detached dwellings.

The applicant has reviewed and studied many sites on campus and across Lowell Road and has determined that this is the best site.

(d) that the proposed personal wireless communication facility site minimizes adverse impacts on historic resources, scenic views, residential property values and natural or man-made resources through the use of camouflage, stealth or other innovative technology;

The proposed site is in the Wireless Communications Facility Overlay District and will fill the gap in coverage.

(e) that the applicant has agreed to implement all reasonable measures to mitigate the potential adverse impacts of the facilities;

The applicant agrees with this requirement.

(f) that the proposal shall comply with the appropriate FCC Regulations regarding emissions of electromagnetic radiation and that the required monitoring program is in place and shall be paid for by the applicant; and

The applicant agrees with this requirement.

(g) that the applicant has agreed to rent or lease available space on the tower, under the terms of a fair-market lease, without discrimination to other Personal wireless service providers;

The applicant agrees to this requirement.

If a special permit is granted the Board shall impose any such additional conditions and safeguards as public safety, welfare and convenience may require, either as recommended by the independent consultant, the Planning Board or upon its own initiative. Any decision by the Board to deny a special permit under this Section shall be in conformance with the Act, in that it shall be in writing and supported by substantial evidence contained in a written record.

7.8.5 Monitoring and evaluation of compliance: Pre-testing and post-testing (including monitoring) shall be required and in accordance with the Office of Engineering Technology Bulletin 65 "Evaluating Compliance the FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" and as defined in "A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance".

(a) Structural Inspection: The tower owner(s) shall pay for an independent licensed professional structural engineer to conduct inspection of the tower's structural integrity and safety. Pre-existing guyed towers shall be inspected every three years. Monopoles and non-guyed lattice towers shall be inspected every five years. A report of the inspection results shall be prepared by the structural engineer and submitted to the Building Inspector, the Town Clerk and the Planning Board. Any modification of an existing facility that increases tower dimensions or antenna numbers or type shall require a new structural inspection.

The applicant agrees to this requirement.

(b) Unsafe Structure: Should the inspection of any tower reveal any structural defect(s) that, in the opinion of the independent structural engineer, render(s) the tower unsafe, the following actions shall be taken. Within ten business days of Written notification of unsafe structure, the owner(s) of the tower shall submit a plan to remediate the structural defect(s). This plan shall be initiated within ten business days of the submission of the remediation plan and completed as soon as reasonably possible.

The applicant agrees to this requirement.

7.8.6. Removal requirements: Any personal wireless communication facility that ceases to operate for a period of one year shall be removed. Cease to operate is defined as not performing the normal functions associated with the personal wireless communication facility and its equipment on a continuous and ongoing basis for a period of one year. At the time of removal, the facility site shall be remediated such that all personal wireless communication facility improvements that have ceased to operate are removed. If all facilities on a tower have ceased to operate, the tower (including the foundation to depth of three feet below grade) shall also be removed and the site shall be revegetated by the owner of the tower. Existing trees shall only be removed if necessary to complete the required removal. The applicant shall, as a condition of the special permit, provide a financial surety or other form of financial guarantee acceptable to the Board, to cover the cost of removal of the facility and the remediation of the landscape, should the facility cease to operate.

Attached under Tab 6 is a removal and disposal estimate. A bond will be submitted to the Town of Concord.

To run in the Concord Journal
Thursday, December 15, 2016 &
Thursday, December 22, 2016

Middlesex School Proposed Wireless Communications Tower
Balloon/Crane Test

Industrial Tower and Wireless, LLC has filed an application with the Concord Zoning Board of Appeals for a new 120-foot wireless communications tower at 1400 Lowell Road (behind the ice rink). As required under Zoning Bylaw Section 7.8.4.2(p), a balloon/crane test will be conducted on December 29, 2016 from 7am to 12pm. In case of poor visibility, the balloon/crane test will be conducted on December 30, 2016 from 7am to 12pm

The plan and supporting materials may be reviewed at the Department of Planning and Land Management, Planning Division Office, 141 Keyes Road, Monday - Friday between 8:30 a.m. and 4:30 p.m.

Please bill: Thomas Lennon, VP
Industrial Tower and Wireless, LLC
40 Lone Street, Marshfield, MA 02050
781-319-1111

verizon

AFFIDAVIT OF RADIO FREQUENCY ENGINEER

The undersigned, in support of Verizon Wireless' intent to collocate on the proposed Industrial Tower and Wireless, LLC wireless communications facility at 1400 Lowell Road in Concord, Massachusetts states the following:

1. My name is Keith Vellante. I have a Bachelor of Science degree in Electrical Engineering from the University of New Hampshire and I am employed as a Radio Frequency (RF) Engineer for C Squared Systems, LLC. C Squared Systems has entered into a contract with Verizon Wireless to provide RF consulting services on behalf of Verizon Wireless. I have reviewed the proposed site with the Radio Frequency Engineer responsible for the Verizon Wireless network design in the area of Massachusetts that includes the Town of Concord, MA.
2. Verizon Wireless is a federally licensed provider of wireless communications services with a national footprint.
3. The above mentioned location is in an area where Verizon Wireless currently provides wireless services from its existing facility located on the nearby smokestack on the same property. Due to the planned demolition of this smokestack, Verizon Wireless must relocate its existing facility to a new location capable of preserving or improving the service currently provided by the existing facility.
4. The purpose of the proposed site is to provide an adequate replacement to the coverage and capacity currently provided by Verizon Wireless to northwestern areas of Concord from its existing smokestack facility. These areas include, but are not limited to, Lowell Road/Concord Street, Westford Road, the Middlesex School campus, and the surrounding roads, neighborhoods, and community areas.

   The following table provides details of Verizon Wireless' installation on the existing smokestack and the proposed replacement facility:

Site Name:	Site Address:	Latitude:	Longitude:	Elevation (AMSL):	Antenna Centerline Height (AGL):
Concord North (Smokestack)	1400 Lowell Road Concord, MA	42.4991	-71.3671	198'	71'
Concord N Relo	1400 Lowell Road Concord, MA	42.5005	-71.3676	190'	116'

5. I have reviewed Verizon's proposed installation to be placed on this tower as well as the other existing and planned antenna site locations used in Verizon Wireless' network in and around the vicinity. I have analyzed the potential benefits this site would represent to Verizon Wireless' network and its users through radio frequency propagation modeling. I employ computer simulations, which incorporate the results of field tests of existing facilities, to determine radio frequency (RF) coverage for Verizon Wireless' system. These simulations model characteristics such as antenna types, antenna height, output power, terrain, ground elevations and RF propagation effects of the frequency utilized.

6. The following table details site specific information of the surrounding Verizon Wireless telecommunications facilities used to generate the coverage plots attached hereto.

Site Name:	Latitude:	Longitude:	Street Address:	City:	Structure Type:	Antenna Centerline Height (AGL):	Status:
Acton South	42.4462	-71.4271	36 Knox Trail	Acton	Monopole	148	On-Air
N Acton	42.5315	-71.4040	982 Main Steet	Acton	Monopole	129	On-Air
Acton	42.4683	-71.4543	Main Street	Acton	Lattice	142	On-Air
Acton 2	42.4898	-71.4248	5 Post Office Square	Acton	Flagpole	131	On-Air
Bedford	42.4837	-71.2958	216 Concord Road	Bedford	Monopole	102	On-Air
Bedford N	42.5118	-71.2465	Crosby Drive	Bedford	Water Tank	110	On-Air
Bedford 4	42.4914	-71.2798	75 Great Road	Bedford	Steeple	77	On-Air (October)
Billerica Msc	42.5665	-71.3236	38 Sullivan Road	Billerica	Lattice	176	On-Air
Billerica 3	42.5355	-71.2801	600 Technology Park Drive	Billerica	Lattice	142.5	On-Air
Billerica Winning Pond	42.5595	-71.3038	20 Republic Road	Billerica	Monopole	102	On-Air
Boxborough 2	42.5013	-71.4783	90 Central St	Boxborough	Monopole	90	On-Air
Carlisle	42.5182	-71.3165	871 Bedford Road	Carlisle	Unipole	146	On-Air
Chelmsford 4	42.5957	-71.3685	495-N Rest Stop	Chelmsford	Monopole	97	On-Air
Chelmsford S	42.5845	-71.3900	13 Kidder Road	Chelmsford	Monopole	100	On-Air
Concord Center	42.4725	-71.3361	509 Bedford Street	Concord	Unipole	90	On-Air
Concord 3	42.4774	-71.3949	40Y Annursnac Hill Road	Concord	Monopole	118	On-Air
Concord	42.4515	-71.3759	133 Old Road to Nine Acres Corner-Emerson Hospital	Concord	Monopole	87	On-Air
Lexington N	42.4723	-71.2553	40 Hartwell Avenue	Lexington	Stealth Monopole	100	On-Air
Concord 2	42.4462	-71.3183	23 Cambridge Turnpike	Lincoln	Lattice	80	On-Air
Littleton	42.5242	-71.4625	Newton Road	Littleton	Lattice	120	On-Air
Westford 2	42.5411	-71.4489	79 Powers Road	Westford	Lattice	99	On-Air
Westford	42.5719	-71.4192	8 Nixon Road	Westford	Monopole	130	On-Air

7. The LTE signal propagation plots were produced using computer modeling based on drive tests of the region. The plots show coverage based on RSRP signal strengths of -90 dBm and -95 dBm. The green areas represent the minimum desired level of coverage for this area, whereas the orange areas represent a slightly lower signal strength. The deficient areas of coverage are defined by the unshaded or "white" areas.

8. The RF map titled "Concord N Relo – 700 MHz LTE Coverage with Existing Concord North (Smokestack) Site" attached hereto depicts the coverage provided from the "On-Air" Verizon Wireless sites in the Concord area, including the existing facility located on the smokestack that is planned for demolition. As can be seen from that attachment to the application, the surrounding sites, in conjunction with the existing smokestack facility, provide adequate coverage along Lowell Road, Westford Road, and the Middlesex School campus in northwestern Concord.

9. The RF map titled "Concord N Relo – 700 MHz LTE Coverage without Concord North Relo or Smokestack Site" attached hereto depicts the coverage provided from only the surrounding "On-Air" sites, without either the existing smokestack facility or its proposed replacement at 1400 Lowell Road. As can be seen from that attachment, removal of the existing site without an adequate replacement would open up coverage gaps to northwestern Concord including Lowell Road, Westford Road, the Middlesex School campus, and the surrounding roads, neighborhoods, and community areas.

10. Furthermore, the inability to adequately replace the smokestack facility would substantially disrupt the surrounding Verizon Wireless network. The surrounding sites, in particular the "Concord 3" site, would become encumbered with trying to absorb the void left by the removal of the existing smokestack facility. This additional burden imposed on the surrounding sites would not only impact Verizon Wireless service in northwestern areas of Concord, but would also disrupt other areas of Concord and the surrounding towns presently served by these surrounding sites.

11. The RF map titled "Concord N Relo – 700 MHz LTE Coverage with Proposed Concord North Relo Site" attached hereto depicts the coverage provided with the Verizon Wireless collocation on the proposed monopole facility. As depicted here, the proposed facility adequately replaces the coverage and capacity provided by the existing smokestack facility, and preserves or improves the level of service its customer base is accustomed to in northwestern Concord and the surrounding areas.

12. The map titled "Concord N Relo – Area Terrain Map" attached hereto details the terrain features around the proposed "Concord N Relo" site. These terrain features play a key role in dictating both the unique coverage areas served from a given location, and the coverage gaps within the network. This map is included to provide a visual representation of the terrain variations that must be considered when determining the appropriate location and design of a proposed wireless facility.

13. Analysis of the proposed facility, including radio frequency propagation modeling, has indicated that antennas at this location will work to satisfy the specific coverage and capacity requirements of maintaining or improving Verizon Wireless' current level of service for its network in the areas around northwestern Concord, MA.

14. Verizon Wireless certifies that the proposed facility will not cause interference to any lawfully operating emergency communication system, television, telephone or radio, in the surrounding area. The FCC has licensed Verizon Wireless to transmit and receive in the Upper C-Block of the 700 MHz band, B Block of the Cellular (850 MHz) band, the F, C3, and C4 Blocks of the PCS (1900 MHz) band, and the A and B Blocks of the AWS (2100 MHz) band of the RF spectrum. As a condition of the FCC licenses, Verizon Wireless is prohibited from interfering with other licensed devices that are being operated in a lawful manner. Furthermore, no emergency communication system, television, telephone, or radio is licensed to operate on these frequencies, and therefore interference is highly unlikely.

15. Pursuant to its Federal Communications Commission (FCC) licenses, Verizon Wireless is required to ensure that all radio equipment operating at the proposed communications facility and the resulting radio frequency exposure levels are compliant with FCC requirements as well as federal and state health and safety standards.

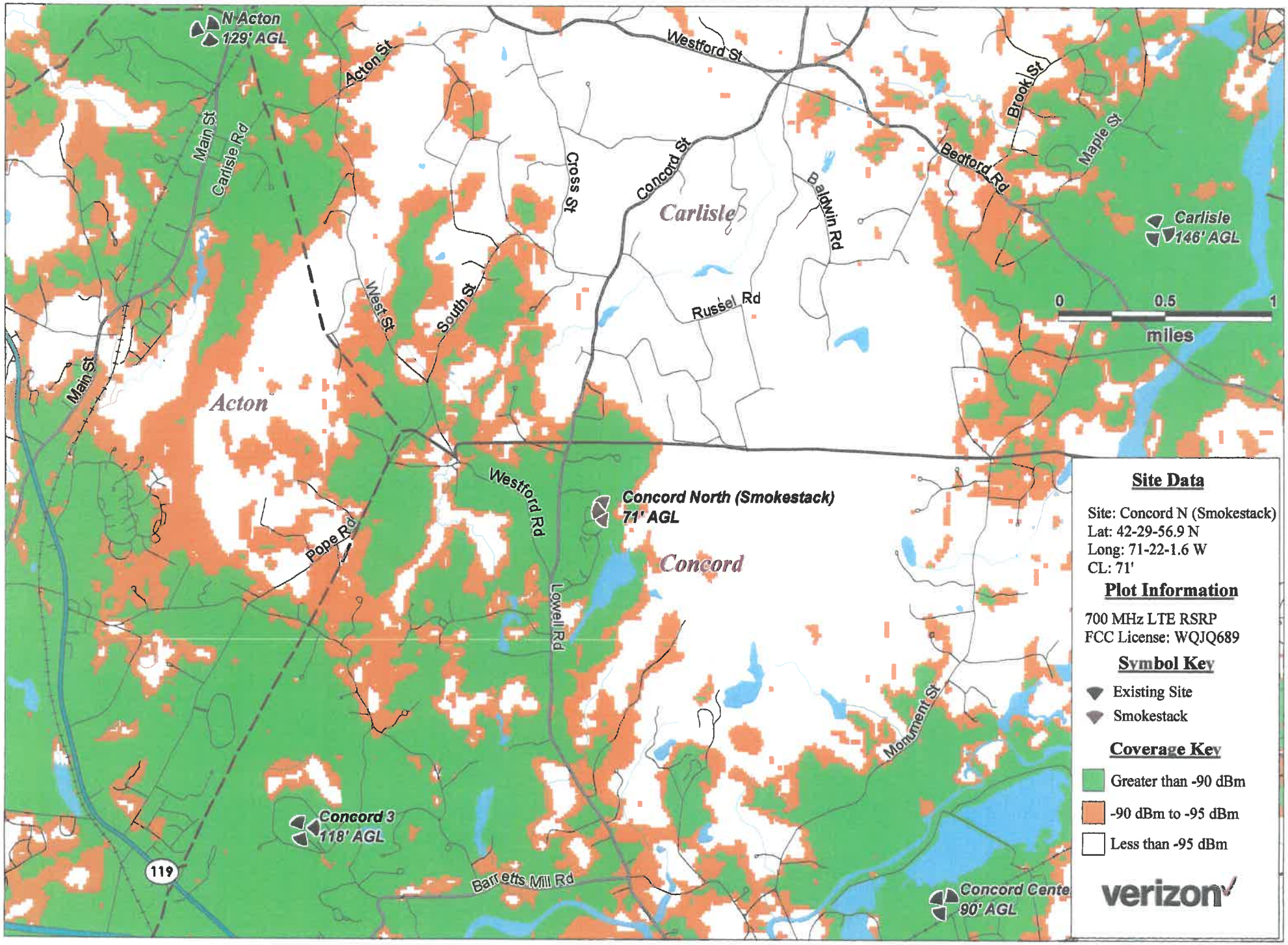
16. Providing wireless communication services is a benefit to the residents of the Town of Concord, as well as to mobile customers traveling throughout the area. The proposed location is well suited to meet Verizon Wireless' network requirements for the area due to its location and topographic characteristics. The absence of a wireless telecommunications facility at or near this immediate location to adequately replace its existing facility will result in coverage gaps and inadequate network capacity in this area. Without the proposed facility, Verizon Wireless will be unable to provide reliable wireless communication services in this area of the Town of Concord.

Signed and sworn under the pains and penalties of perjury October 24th, 2016.

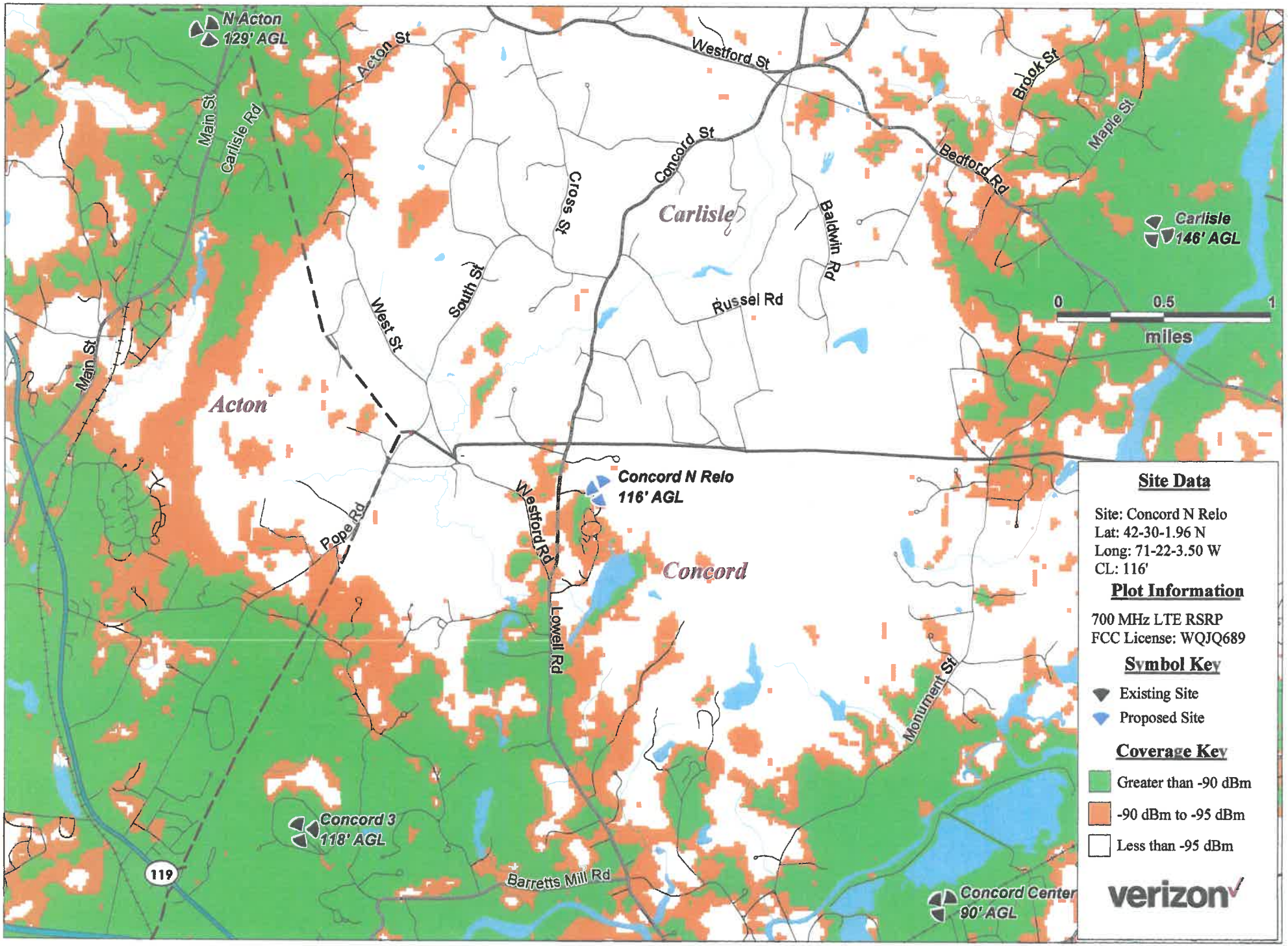
Keith Vellante

Keith Vellante - Radio Frequency (RF) Engineer
C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032

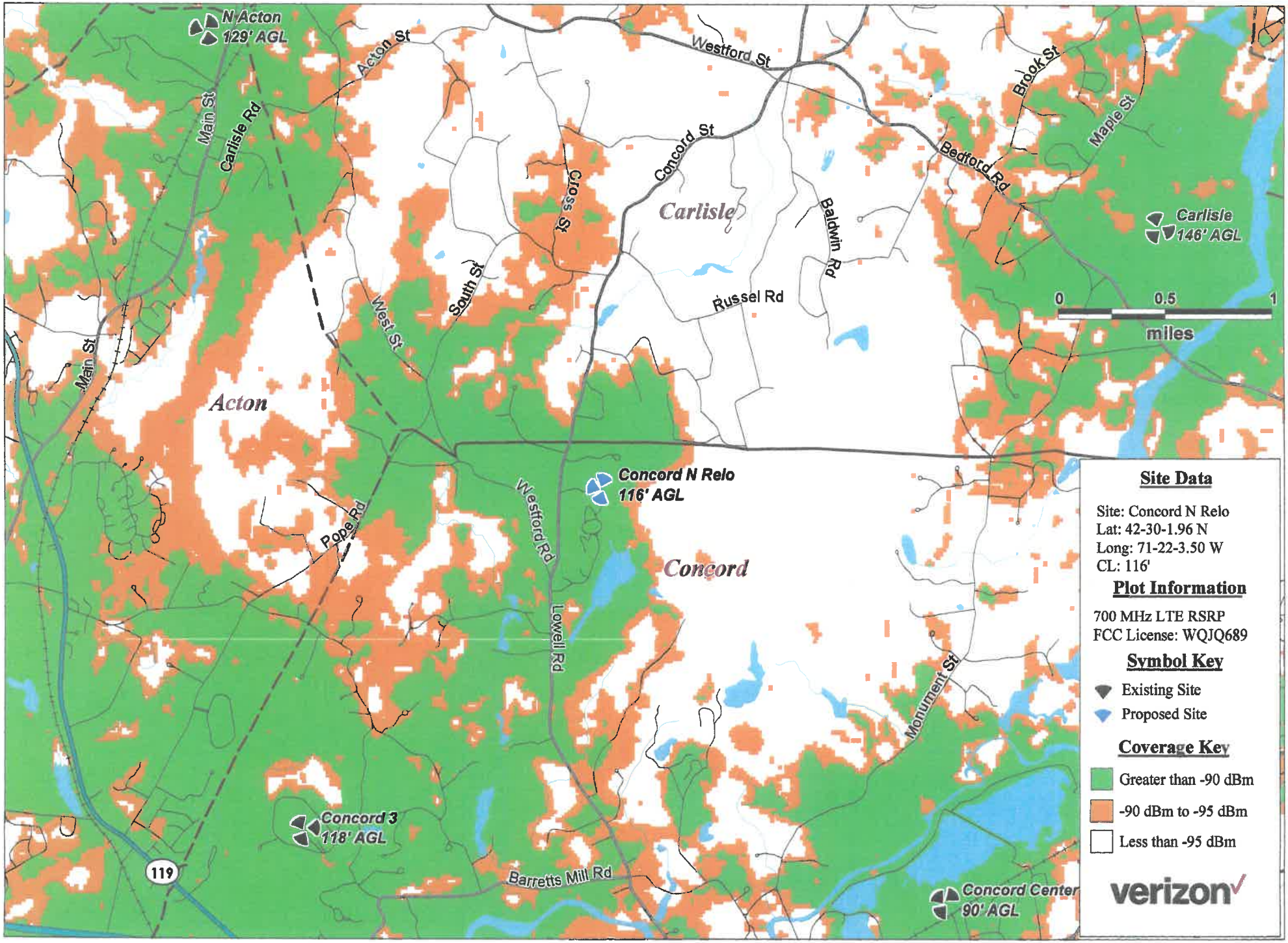
Concord N Relo - 700 MHz LTE Coverage with Existing Concord North (Smokestack) Site



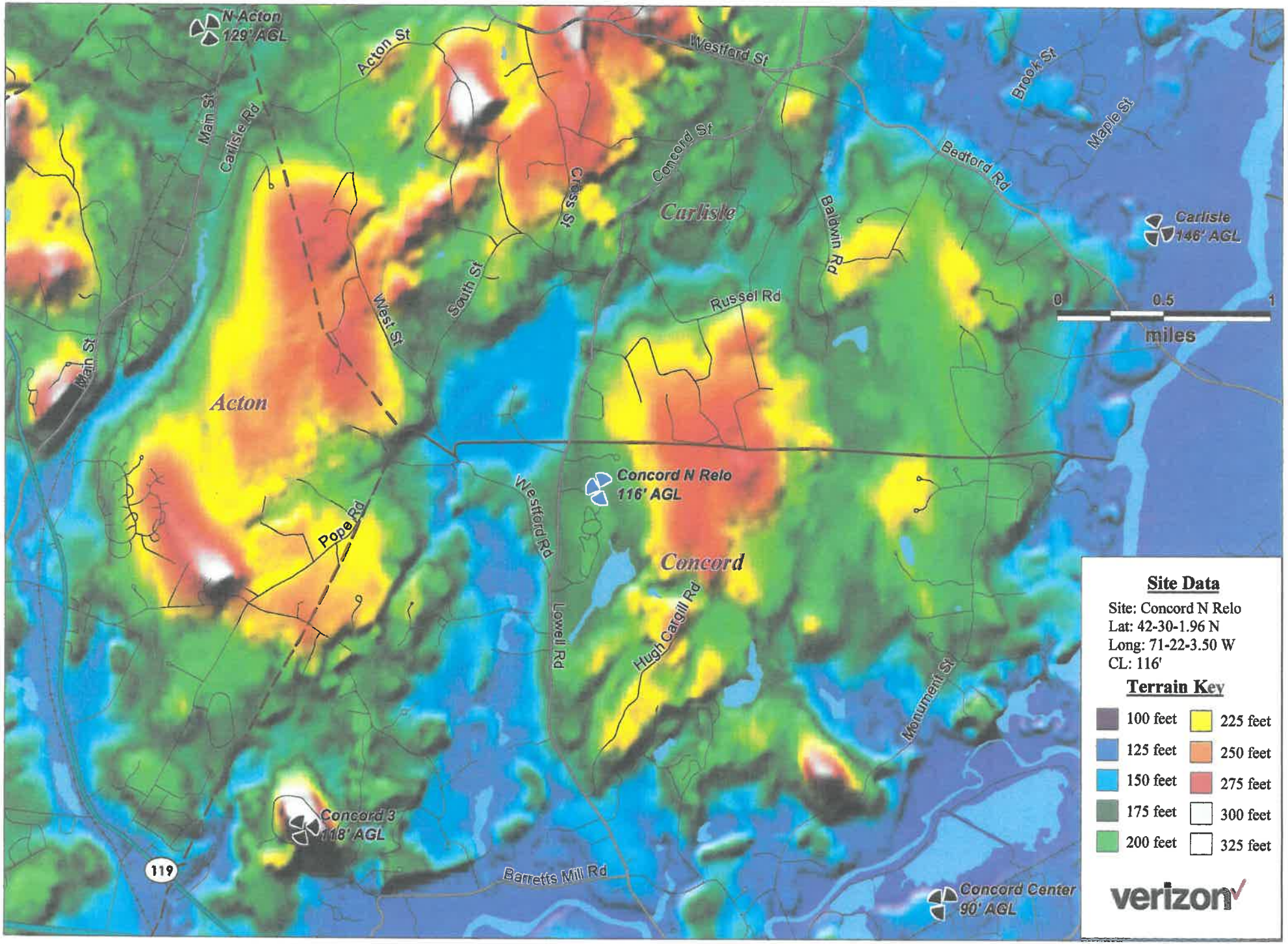
Concord N Relo - 700 MHz LTE Coverage without Concord North Relo or Smokestack Site



Concord N Relo - 700 MHz LTE Coverage with Proposed Concord North Relo Site



Concord N Relo - Area Terrain Map



RF Report

Proposed Telecommunications Tower

(MA3386 – Middlesex School – 1400 Lowell Road, Concord, MA)

October 20, 2016

TABLE OF CONTENTS

1. Overview

New Cingular Wireless PCS, LLC ("AT&T") is providing the following information in support of Industrial Communication's application to the Town of Concord to construct and operate a monopole tower wireless telecommunications facility ("Facility") in Concord for its Personal Communication Services. The proposed Facility is to be located at the Middlesex School at 1400 Lowell Road, Concord, MA (the "Site"). The Facility is needed to provide coverage for significant coverage gaps that will exist once the existing smokestack facility is decommissioned, as discussed in this report. This report addresses AT&T's need for the proposed Facility at the Site and confirms that there are no superior alternative existing structures, buildings or towers in this part of Concord that meet AT&T's coverage objectives for this area.

Included in this package are a brief summary of the proposed Facility's objectives, an analysis of alternate site candidates considered and the need for a replacement communication structure to allow for the continued service throughout the town of Concord.

2. AT&T's Proposed Facility

As shown on the plans submitted with the zoning application, AT&T proposes to construct, operate and maintain a personal wireless service facility consisting principally of the following elements:

- (9) 8' antennas
- (21) radios
- (4) surge arrestors
- (8) DC power lines
- (2) Fiber trunks
- (3) RET lines
- (1) 12' x 20' shelter
- + shared generator

3. Coverage and Capacity Objectives

AT&T provides digital cellular communications service using GSM (referred to as 2G) and UMTS (also referred as 3G) technology in the 850 MHz and 1900 MHz frequency bands as allocated by the Federal Communications Commission ("FCC"). In addition, AT&T is in the process of expanding and enhancing its network throughout Massachusetts and specifically in Concord to provide high speed data services commonly referred to as "long term evolution" ("LTE"). LTE operates in the 700, 850, 1900, and 2300 MHz frequencies under license from the FCC.

Regarding the Middlesex School site, AT&T has determined that significant coverage gaps will exist in Concord once the existing smokestack communication facility is decommissioned (Targeted Coverage Area).

Wireless communication services are no longer limited to providing mobility for voice services. They have evolved to offer a wider range of advanced services to include wide-area voice, data, internet, video, and broadband wireless data, among others, all in a mobile environment. In order to offer these competitive services to more residents, businesses and commuters traveling in and through the Targeted Coverage Area, AT&T needs to improve the quality of its coverage by filling in as many of the intended gaps as possible with signal strengths conducive to in-building and in-vehicle usage, and to provide the capacity and bandwidth requirements to meet the increasing demand on the network.

In summary, the key objective of the Middlesex School site is to provide improved in-building and in-vehicle coverage for both UMTS and LTE services in Concord.

4. Site Search and Selection Process/Candidate Evaluation

AT&T currently maintains its transmission equipment on the existing 95' smokestack on the property at a mounting height of 90'. Since the existing communication facility on the smokestack will be decommissioned, AT&T needs a replacement site in order to continue to provide coverage to the area. The new proposed Facility will suffice AT&T's needs and allow for the continued coverage to the area of Concord.

5. Alternative Site Analysis

AT&T has been unable to identify any existing or approved wireless facility or other suitable existing or approved structure, building or tower in the specified search area of Concord from which to address the significant coverage gaps. The proposed Facility at Middlesex School will provide optimum coverage for AT&T's network. Additionally, extending or modifying the surrounding sites, as listed below, will not provide the necessary coverage (both voice & data) to the Targeted Coverage Area further justifying the need for the proposed Facility.

Site ID	Address	Site Type	Lat/Long
MA3386	1400 Lowell Road, Concord, MA	Smokestack	(42.4994, -71.3665)
MA3102	982 Main Street, Action, MA	Monopole	(42.5315, -71.4039)
MA3285	871 Bedford Road, Carlisle, MA	Unipole	(42.5182, -71.3164)
MA3152	216 Concord Road, Bedford, MA	Monopole	(42.4837, -71.2958)
MA3313	509 Bedford Street, Concord, MA	Unipole	(42.4723, -71.336)
MA3403	40 Yannursnac Hill Road, Concord, MA	Lattice	(42.4775, -71.3947)

6. Summary

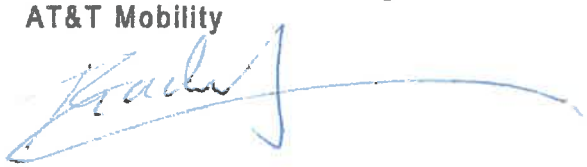
No other existing structures are better suited than the subject Site to provide the coverage and capacity requirements needed for this area of Concord, Massachusetts. The location and the facility configuration were chosen to achieve an optimal balance between meeting coverage objectives and minimizing the aesthetic impact to the community while fully complying with the Zoning Code. It will comply with all applicable FCC regulations regarding RF emissions and other matters. The proposed Facility site is feasible and appropriate, and will improve wireless service within Concord and the surrounding vicinity.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate.

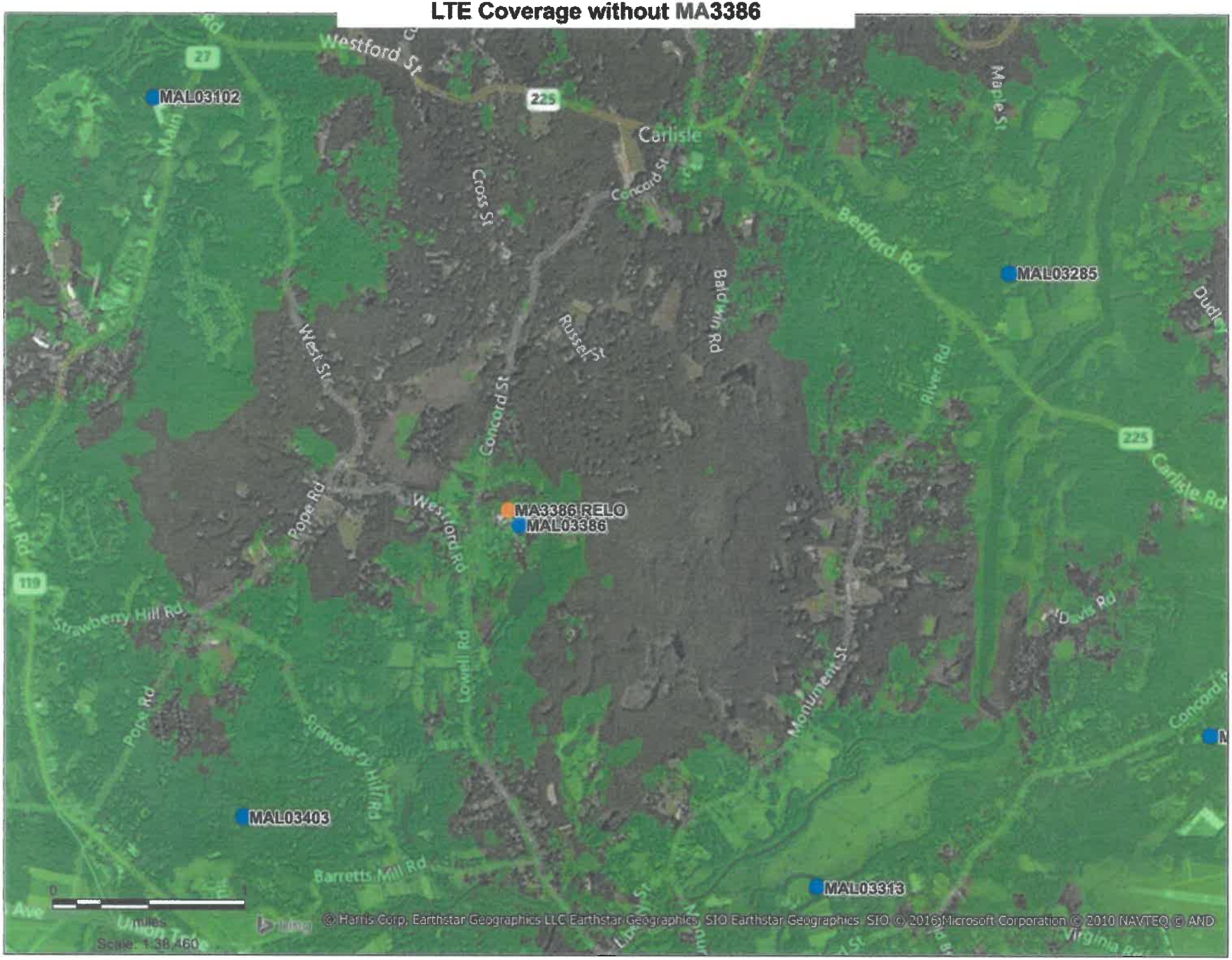
Radu Alecsandru, RF Engineer
AT&T Mobility

Date 10/20/16

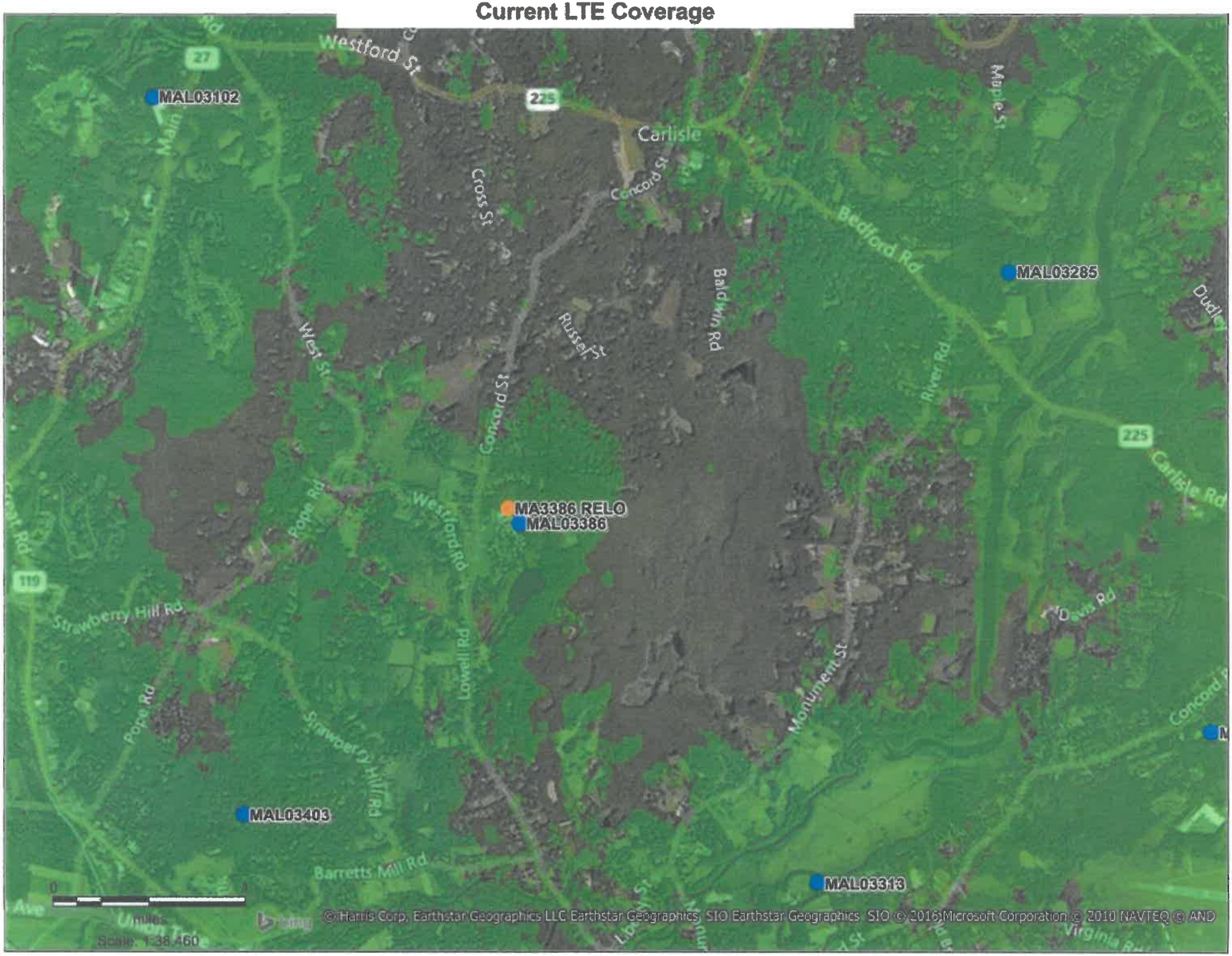


(A0211961 2)

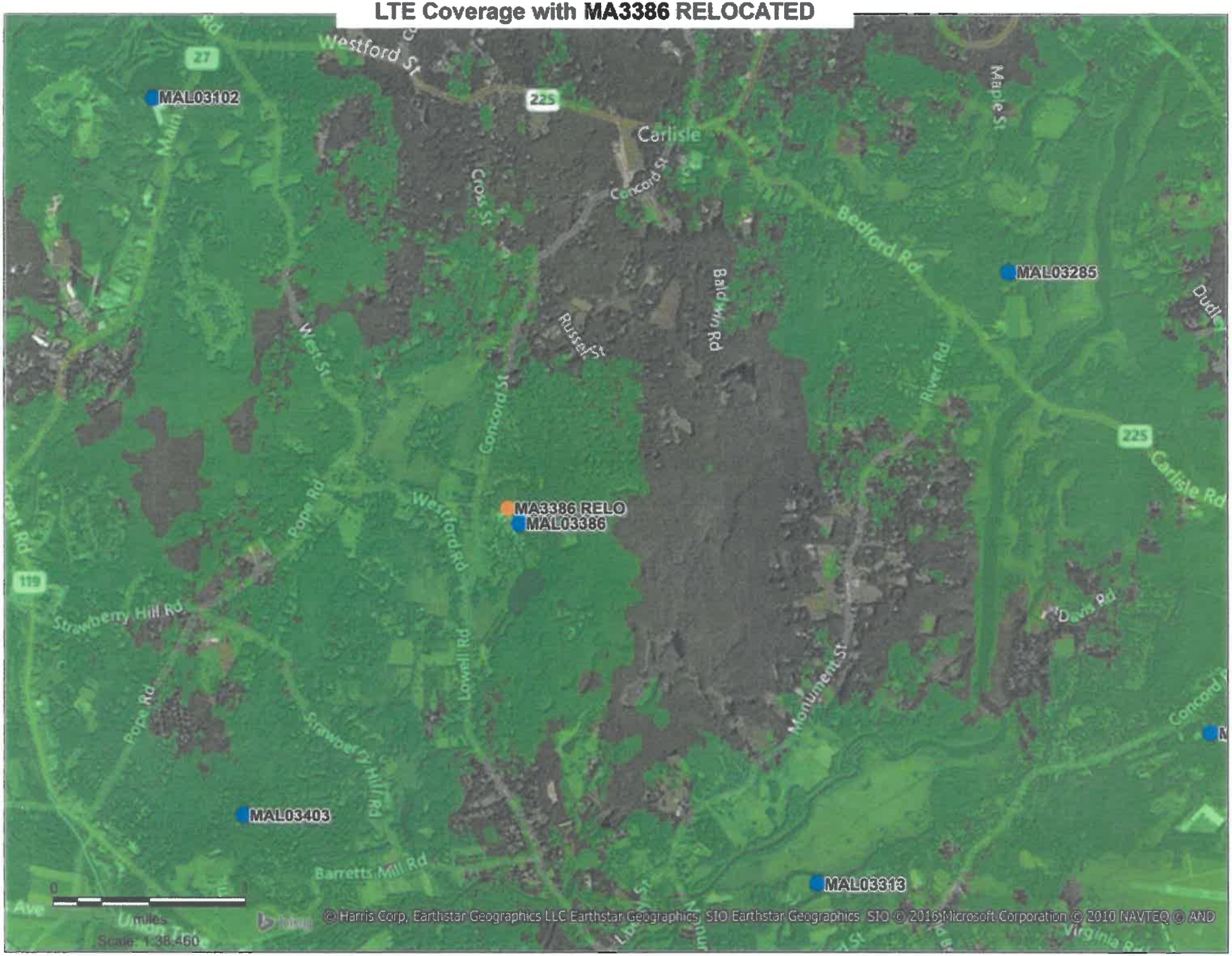
LTE Coverage without MA3386



Current LTE Coverage



LTE Coverage with MA3386 RELOCATED



AT&T

Site ID	Address	Site Type	Lat/Long
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MA3403	40 Yannursnac Hill Road, Concord, MA	Lattice	(42.4775, -71.3947)

New Site Design – 4BN1087A
RF Affidavit
Statement of Need

The undersigned hereby states the following in support of the application by T-Mobile, hereafter referred to as "Applicant', to relocate/install wireless communications broadcast/receive equipment at 1400 Lowell Road, Concord, MA hereinafter referred to as the "Site".

Currently, T-Mobile has an existing wireless communication facility on the same location. T-Mobile must relocate its existing facility to a New Monopole, on the same location, to continue providing Service to the Town of Concord particularly along Lowell Road, Westford Road, Concord Street and surrounding areas. This will enable us to continue Fulfilling T-Mobile mandate of providing service pursuant to its Federal Communications Commission ("FCC") license.

The wireless communications service that T-Mobile provides is part of an existing nationally based network and will include enhanced voice and data capabilities using new Long Term Evolution technologies that is focused on high capacity and speed. The service will also provide an enhanced 911 capability so that emergency responders can pinpoint the location of callers within the service area.

Lowell Road, Concord Street and the surrounding areas is critical to T-Mobile's network because it is the main transportation route in the area connecting the towns of Carlisle and Concord. Accordingly, T-Mobile requires the new proposed site at the height of 106 feet on the proposed location to effectively continue providing wireless communication service to the Town of Concord and surrounding areas pursuant to its FCC license.

Other Benefits

Wireless communication technology provides vital communications in "911" and other emergency situations and is used to promote efficient and effective personal, business, governmental and agricultural communications. These services have become established and accepted as an integral part of the nation's communications infrastructure and promote the public health, safety, morals, comfort and general welfare.

- The number of 911 calls placed by people using wireless phones has significantly increased in recent years. It is estimated that about 70 percent of 911 calls are placed from wireless phones, and that percentage is growing. For many Americans, the ability to call 911 for help in an emergency is one of the main reasons they own a wireless phone. (source: FCC webpage)
- Each day more than 350,000 9-11 calls are made on cell phones, which is over one half of all emergency calls that are placed.
- More than 60,000 9-1-1 calls are made on the Applicant's network every day

Regulatory Compliance and Safety

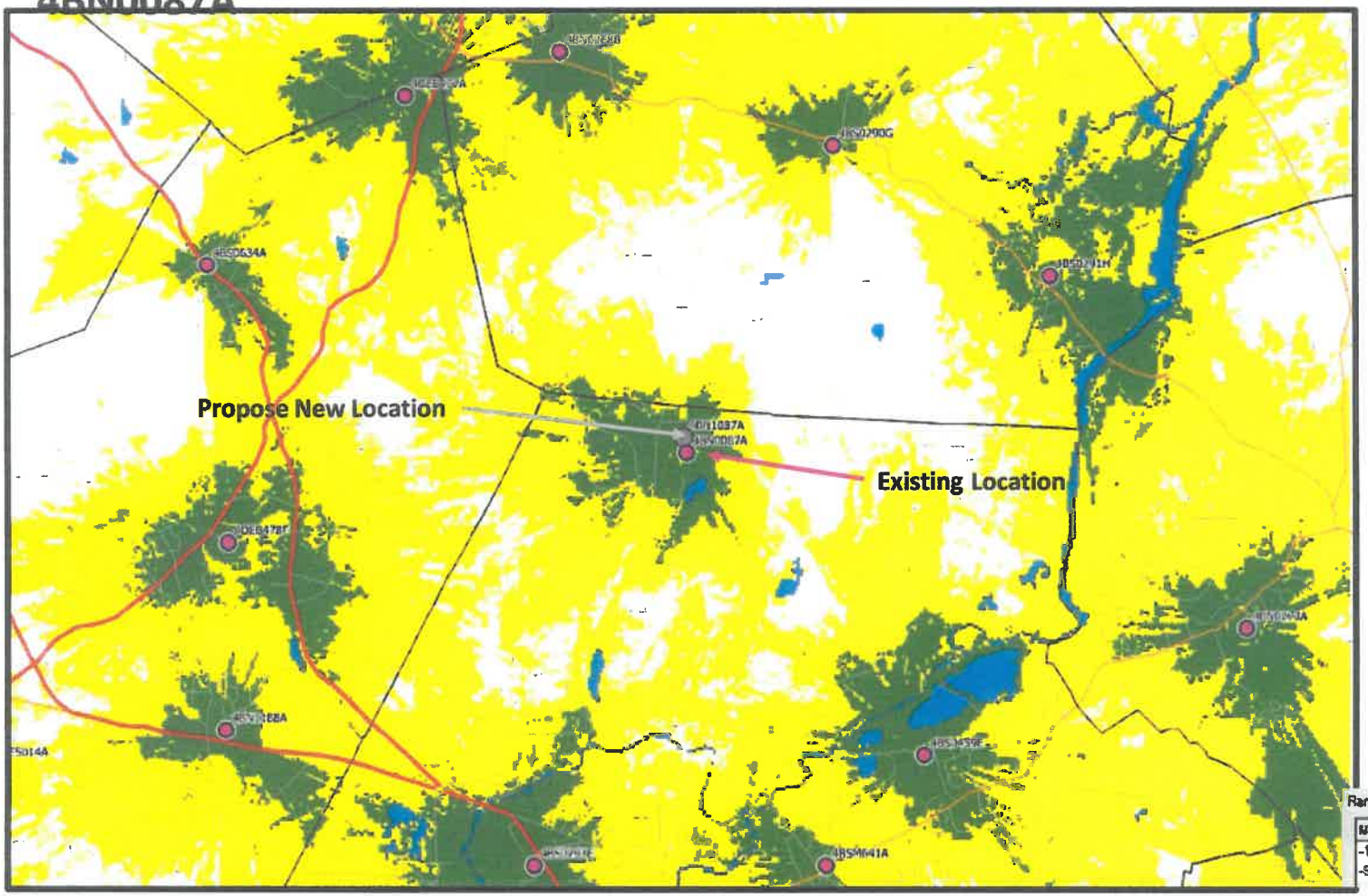
The Telecommunication Facility will continue to meet all applicable health and safety standards, as noted above. The Applicant is licensed and regulated by the Federal Communications Commission (FCC), which imposes strict health and safety standards governing construction requirements, technical standards, interference protection, power and height limitations, and radio frequency standards.

These standards are set by independent safety and standard groups such as the American National Standards Institute (ANSI) and the Institute of Electrical Electronics (IEEE). The Applicant will comply with these standards. T-Mobile also intends to comply with applicable FAA guidelines.

Ryan Monte de Ramos,
T-Mobile Radio Frequency Engineer

Ryan Monte de Ramos 10/21/2016
Signature

Existing LTE 2100 MHz Coverage in Concord, MA with Existing Smokestack location of 4BN0087A



Existing T-Mobile On-Air Site

Propose T-Mobile Site

Other_Road
Line
Line 1

Primary_Road
Line
Line 1

Secondary_Road
Line
Line 1

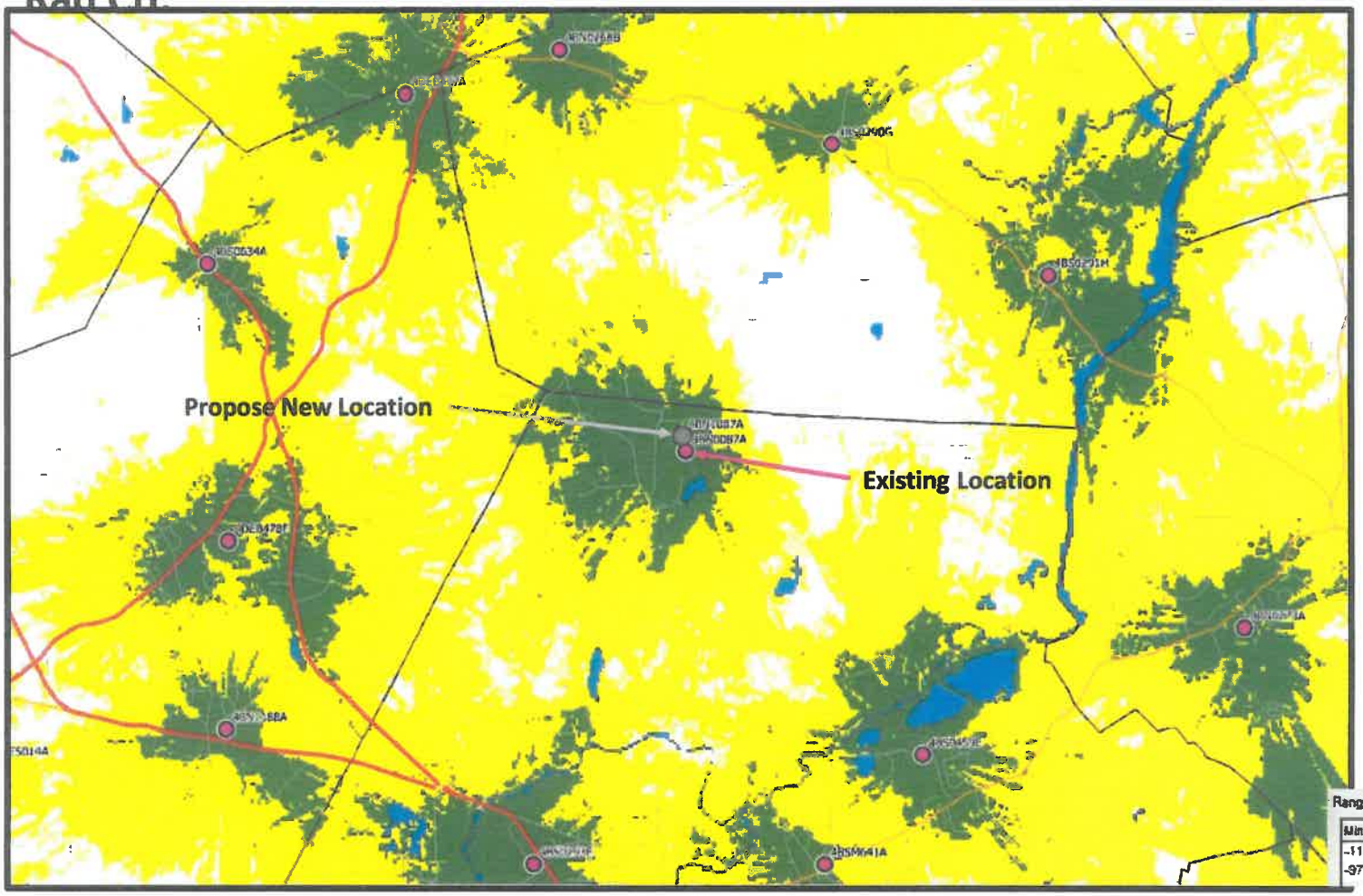
Neighborhood_Road
Line
Line 1

Ranges

Minimum	Maximum	Label	Colour
-114	-97	In-Vehicle	
-97	0	In-Building	

Propose LTE 2100MHz Coverage on the Propose ICE Communication Tower at 106 feet

Rad Ctr



Existing T-Mobile On-Air Site

Propose T-Mobile Site

Other_Road
Line
Line 1

Primary_Road
Line
Line 1

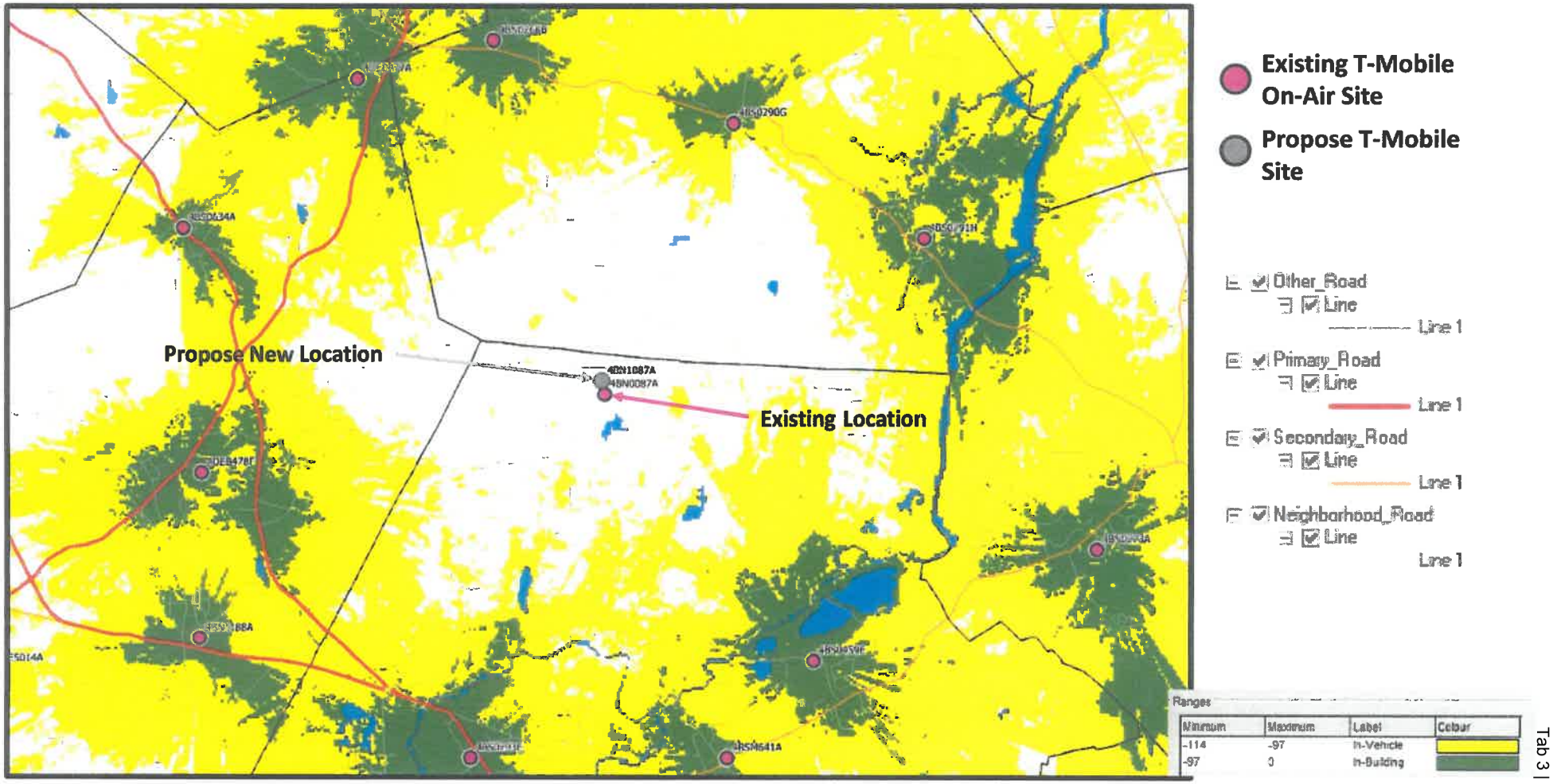
Secondary_Road
Line
Line 1

Neighborhood_Road
Line
Line 1

Ranges

Minimum	Maximum	Label	Colour
-114	-97	In-Vehicle	
-97	0	In-Building	

LTE 2100MHz Coverage in Concord, MA without Existing site 4BN0087A



T-Mobile Existing Site		
Site ID	**Address**	**Site Type**
4BN0087A	1400 Lowell Road, Concord, MA	Smokestack

T-Mobile Surrounding Sites		
Site ID	**Address**	**Site Type**
4BS0459E	509 Bedford Street, Concord, MA	Flagpole
4BS0293E	200 Baker Avenue, Concord, MA	Flagpole
4BN1188A	54 Hosmer Street, Acton, MA	Steeple
4DEB478F	533 Main Street, Acton, MA	Flagpole
4BS0634A	485 Great Road, Acton, MA	Rooftop
4DEB477A	982-988 Main Street, Acton, MA	Monopole
4BSM641A	12 Monument Square, Concord, MA	Steeple
4BN0268B	102 Waterford Street, Carlisle, MA	Monopole
4BS0290G	27 School Street, Carlisle, MA	Steeple
4BS0291H	871 Bedford Road, Carlisle, MA	Flagpole
4BN0273A	216 Concord Road, Bedford, MA	Monopole

DONALD L. HAES, JR., PH.D., CHP

Radiation Safety Specialist

MA Radiation Control Program Health Physics Services Provider Registration #65-0017

PO Box 198, Hampstead, NH 03841 603-303-9959 Email: donald_haes_chp@comcast.net

August 25, 2016

RE: Proposed Industrial Tower & Wireless installation of a monopole with radio base station antennas and associated equipment encompassing a Personal Wireless Services facility to be located at 1400 Lowell Road, Concord, MA.

PURPOSE

I have reviewed the information pertinent to the proposed installation. To determine regulatory compliance, theoretical calculations of maximal radio-frequency (RF) fields have been prepared. The physical conditions are that Industrial Tower & Wireless proposes to install a monopole with radio base station antennas and associated equipment encompassing a Personal Wireless Services (PWS) facility to be located at 1400 Lowell Road, Concord, MA. The antenna arrangements will include arrays of PWS antennas at different mounting heights on the proposed monopole. This report provides written proof that the proposed facility would comply with the FCC RF exposure guidelines, including residential areas and in the surrounding neighborhood.

This report considers the contributions of the PWS transmitters operating at their proposed capacity. The calculated values of RF fields are presented as a percent of current Maximum Permissible Exposures (%MPE) as adopted by the Federal Communications Commission (FCC),[i,ii] and those established by the Massachusetts Department of Public Health (MDPH).[iii]

SUMMARY

Theoretical RF field calculations data indicate the summation of the proposed PWS RF contributions would be well within the established RF exposure guidelines at the proposed site; see Figure 3. Even if the monopole were to be "fully loaded" with one additional PWS provider, the total proposed RF contributions would still be within RF exposure guidelines; see Figure 4. These results indicate there could be many more similar installations at this location, and still be within Federal and State guidelines for RF exposure. This report provides written proof that the proposed facility would comply with the FCC RF exposure guidelines, including residential areas and in the surrounding neighborhoods.

Based on the theoretical RF fields I have calculated, it is my expert opinion that this facility would comply with all regulatory guidelines for RF exposure to members of the public. The PWS installations proposed by Industrial Tower & Wireless would not produce significant changes to the ambient RF environment.

EXPOSURE LIMITS AND GUIDELINES

The RF exposure guidelines adopted by the FCC are a combination of the standards published by the American National Standards Institute (ANSI) [iv] and the National Council on Radiation Protection and Measurement (NCRP). [v] Also applicable are those published by the MDPH. The RF exposure guidelines are divided into two categories: "Controlled/Occupational areas" (those areas restricted to access by RF workers only) and "Uncontrolled/Public Areas" (those areas unrestricted for public access). Listed in Table 1 and shown in Figure 1 are the applicable RF exposure guidelines for uncontrolled areas as they pertain to the operating frequency band of the PWS facility.

Table 1: Maximum Permissible Exposure Values for Uncontrolled/Public Areas

Frequency Band:	Maximum Permissible Exposure:
300 - 1500 MHz	f / 1.5 in $\mu W/cm^2$
1500 - 100,000 MHz	1000 $\mu W/cm^2$ *

Note: 1 μW = 0.000001 Watt

* For equivalent plane-wave power density, where f is the frequency in MHz (10^6 Hz).

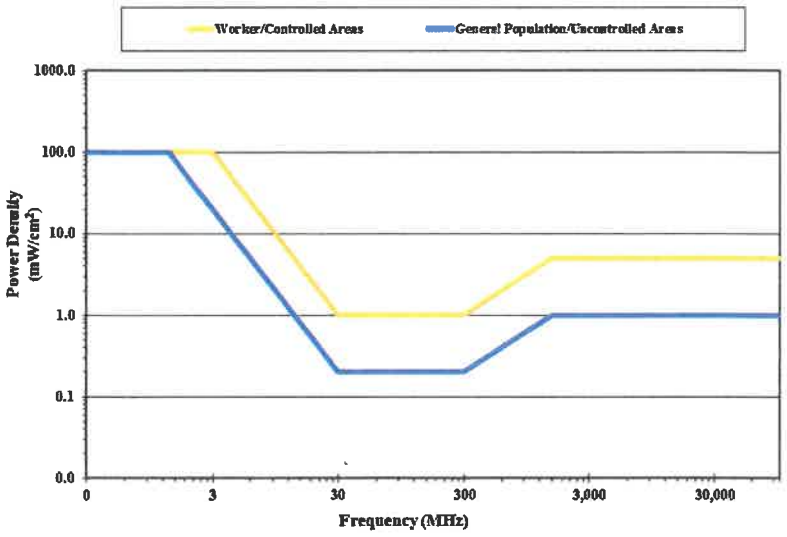


Figure 1: FCC Limits for Maximum Permissible Exposure (MPE)

NOTE: FCC 5% Rule – At multiple transmitter sites, actions necessary to bring the area into compliance with the RF exposure guidelines are the shared responsibility of all licensees whose transmitters produce RF field levels in excess of 5% of the applicable FCC MPEs.

THEORETICAL RF FIELD CALCULATIONS - GROUND LEVELS

METHODOLOGY

These calculations are based on what are called "worst-case" estimates. That is, the estimates assume 100% use of all transmitters simultaneously. Additionally, the calculations make the assumption that the surrounding area is a flat plane. The resultant values are thus conservative in that they over predict actual resultant power densities. The calculations are based on the following information:

1. Effective Radiated Power (ERP): See Table 2 inventory.
2. Antenna height (centerline, above ground level (AGL) See Table 2 inventory.
3. Antenna vertical radiation patterns; the source of the negative gain (G) values. "Omni directional" antennas are designed to focus the RF signal, resulting in "patterns" of signal loss and gain. These patterns (see **APPENDIX A** for typical patterns) display the loss of signal strength relative to the direction of propagation due to elevation angle changes.
   Note: G is a unitless factor usually expressed in decibels (dB); where $G = 10^{(dB/10)}$.
   For example: for an antenna *gain* of 3 dB, the net factor $(G) = 10^{(3/10)} = 2$.
   For an antenna *loss* of -3 dB, the net factor $(G) = 10^{(-3/10)} = 0.5$.

To determine the magnitude of the RF field, the power density (S) from an isotropic RF source is calculated, making use of the power density formula as outlined in FCC's OET Bulletin 65, Edition 97-01: [vi]

$$S = \frac{P \cdot G}{4 \cdot \pi \cdot R^2}$$

Where:
- P → Power to antenna (watts)
- G → Gain of antenna
- R → Distance (range) from antenna source to point of intersection with the ground (feet)
- $R^2 = (\text{Height})^2 + (\text{Horizontal distance})^2$

Since: $P \cdot G$ = EIRP (Effective Isotropic Radiated Power) for broadcast antennas, the equation can be presented in the following form:

$$S = \frac{EIRP}{4 \cdot \pi \cdot R^2}$$

In the situation of off-axis power density calculations, apply the negative elevation gain (G^E) value from the vertical radiation patterns with the following formula:

$$S = \frac{EIRP \cdot G^E}{4 \cdot \pi \cdot R^2}$$

Ground reflections may add in-phase with the direct wave, and essentially double the electric field intensity. Because power density is proportional to the *square* of the electric field, the power density may quadruple, that is, increase by a factor of four (4). Since ERP is routinely used, it is necessary to convert ERP into EIRP; this is readily done by multiplying the ERP by the factor of 1.64, which is the gain of a half-wave dipole relative to an isotropic radiator. Therefore, downrange power density estimates can be calculated by using the formula:

$$S = \frac{4 \cdot (ERP \cdot 1.64) \cdot G^E}{4 \cdot \pi \cdot R^2} = \frac{ERP \cdot 1.64 \cdot G^E}{\pi \cdot R^2} = \frac{0.522 \cdot ERP \cdot G^E}{R^2}$$

To calculate the % MPE, use the formula:

$$\%\ MPE = \frac{S}{MPE} \cdot 100$$

MONOPOLE INSTALLATION LOCATION

The location of the proposed monopole which would host PWS antennas is shown below in Figure 2. The antenna inventory is listed in Table 2.

Figure 2: Location of the Proposed Monopole at 1400 Lowell Road, Concord, MA

ANTENNA INVENTORY

Table 2: Proposed Typical Antenna Inventory Monopole to be located at 1400 Lowell Road, Concord, MA			
Antenna Centerline (AGL)	Typical Panel Antenna Model	Typical Parameters: ERP & Tx Frequencies	Typical Use
Verizon Wireless			
116 '	Antel WPA-80080/4CF HBX-6516-DS-VTM LNX-6514-DS-VTM HBX-6516-DS-VTM	3120 W @ ≈850-890 MHz	CDMA
		3693 W @ 1970-1975 MHz	CDMA-PCS
		906 W @ ≈700 MHz	LTE
		1539 W @ ≈2150 MHz	AWS
T-Mobile			
106'	EMS RR 6519	2750 W @ ≈ 1945-1950, 1965-1970 MHz	PCS
106'	EMS RR 6519	2500 W @ ≈ 2145 MHz	AWS
AT&T			
96 '	HPA-65R-BUU-H8 HPA-65R-BUU-H8 HPA-65R-BUU-H8 HPA-65R-BUU-H8	1277 W @ ≈850-880 MHz	GSM/UMTS
		2547 W @ ≈1930-1945 MHz	GSM/UMTS
		1277 W @ ≈700 MHz	LTE
		2168 W @ ≈2150 MHz	AWS
One Additional PWS provider			
86'	DB930DD65 Scala AP-15850	2750 W @ ≈ 1950-1965 MHz 400 W @ ≈ 880 MHz	E.g. Sprint PCS / Nextel - ISDN

RESULTS

The results of the percent Maximum Permissible Exposure (%MPE) calculations for the summation of the **proposed** Verizon Wireless, AT&T, and T-Mobile PWS RF emissions (from data Table 2) are depicted in Figure 3 as plotted against linear distance from the base of the monopole. For the distance from the base of the tower listed on the horizontal axis, the maximum RF exposure value expected (in % MPE) can be read on the vertical scale corresponding to either 6' AGL or 16' AGL reference points.

The values have been calculated for a height of six feet above ground level in accordance with regulatory rationale. In addition to the six foot height and depicted on the graphs for reference only, values have been plotted for a height of 16 feet above ground level for comparison with a typical two-story structure. A logarithmic scale was used to plot the calculated theoretical %MPE values in order to compare with the MPE of 100%, which is so much larger that it would be off the page in a linear plot.

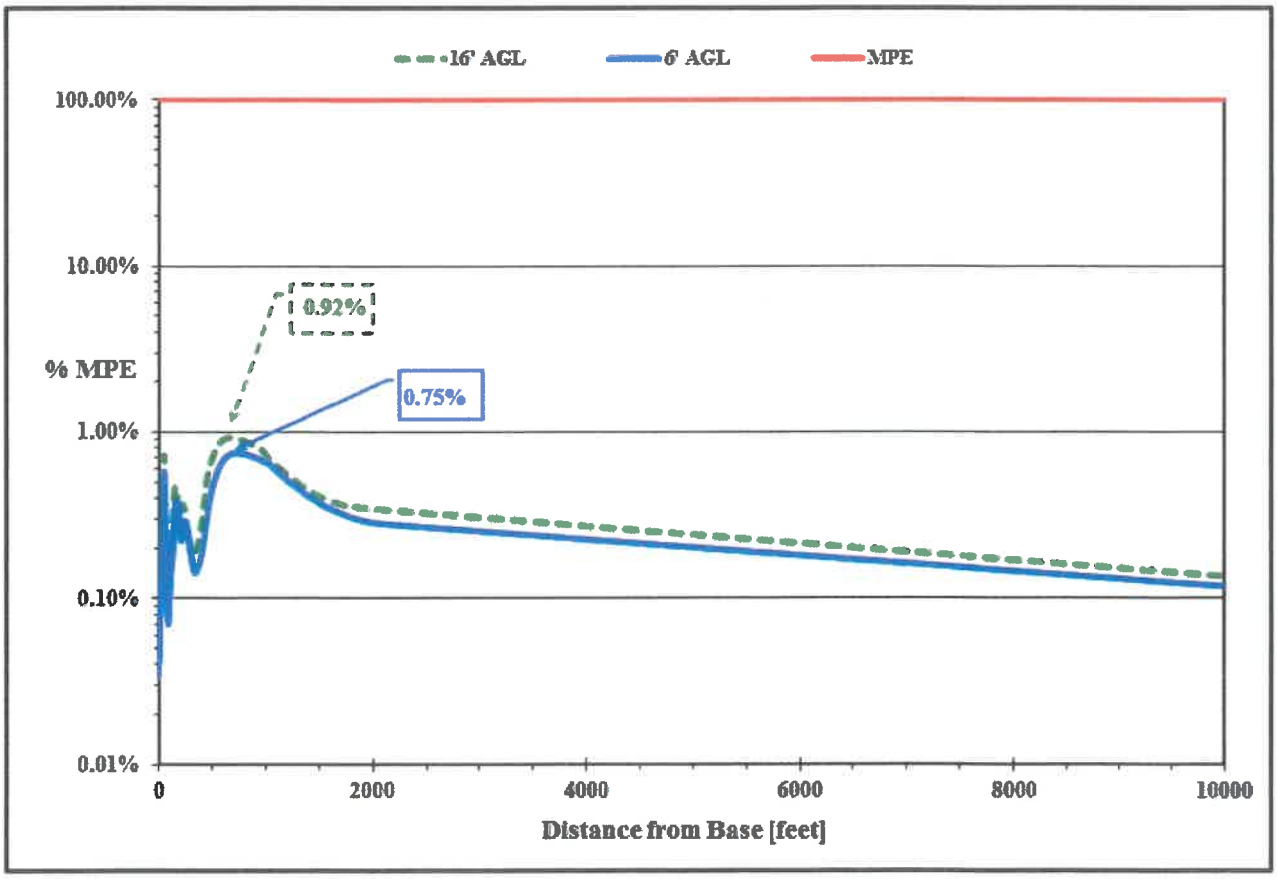


Figure 3: Theoretical Cumulative Maximum Percent MPE - vs. - Distance (*Proposed* Verizon Wireless + AT&T + T-Mobile PWS RF Contributions)

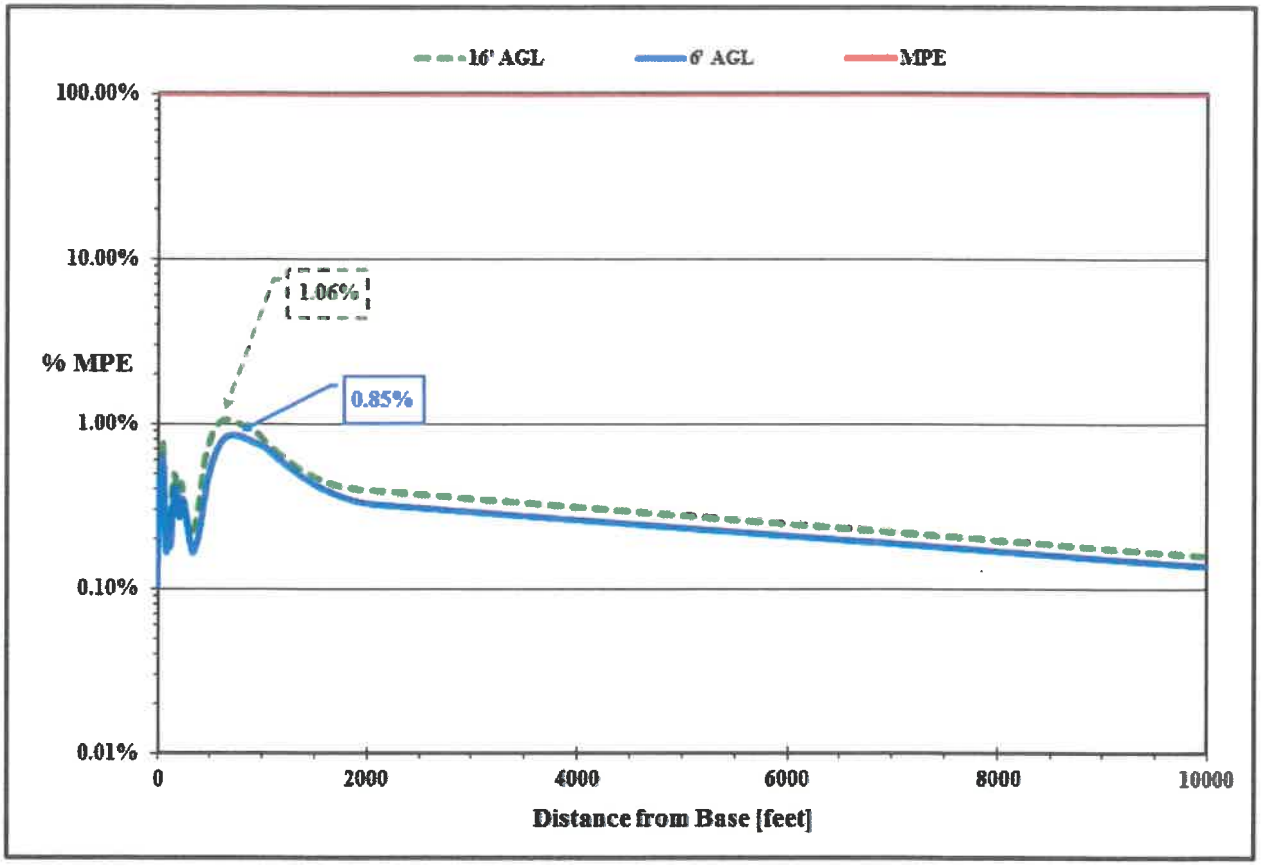


Figure 4: Theoretical Cumulative Maximum Percent MPE - vs. - Distance (*Proposed* PWS + 1 Additional PWS Provider's RF Contributions)

OBSERVATIONS IN CONSIDERATION WITH FCC RULES §1.1307(B) & §1.1310

Is it physically possible to stand next to or touch any antenna?

NO; access to the monopoles will be restricted, and Industrial Tower & Wireless will adhere to RF safety guidelines regarding potential access to the proposed PWS antennas mounted on the monopole.

CONCLUSION

Theoretical RF field calculations data indicate the summation of the proposed PWS RF contributions would be well within the established RF exposure guidelines at the proposed site; see Figure 3. Even if the monopole were to be "fully loaded" with one additional PWS provider, the total proposed RF contributions would still be within RF exposure guidelines; see Figure 4. These results indicate there could be many more similar installations at this location, and still be within Federal and State guidelines for RF exposure. This report provides written proof that the proposed facility would comply with the FCC RF exposure guidelines, including residential areas and in the surrounding neighborhoods.

The number and duration of calls passing through PWS facilities cannot be accurately predicted. Thus, in order to estimate the highest RF fields possible from operation of these installations, the maximal amount of usage was considered. Even in this so-called "worst-case", the resultant increase in RF field levels are far below established levels considered safe.

Based on the theoretical RF fields I have calculated, it is my expert opinion that this facility would comply with all regulatory guidelines for RF exposure to members of the public. The PWS installations proposed by Industrial Tower & Wireless would not produce significant changes to the ambient RF environment.

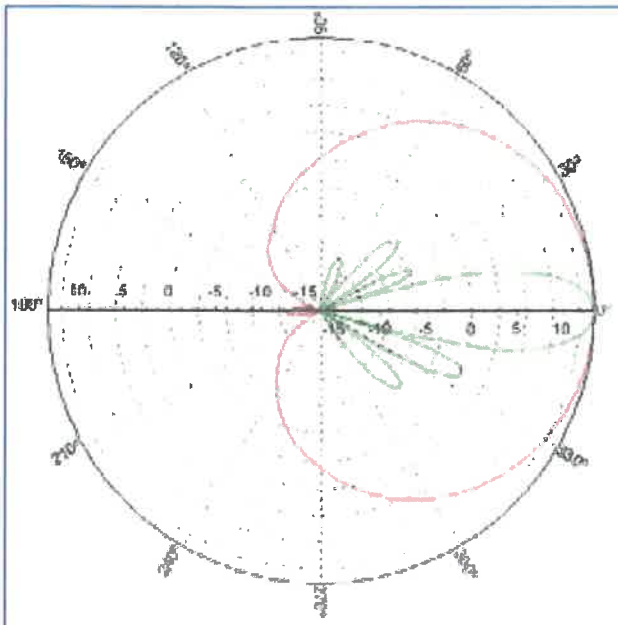
Feel free to contact me if you have any questions.

Sincerely,

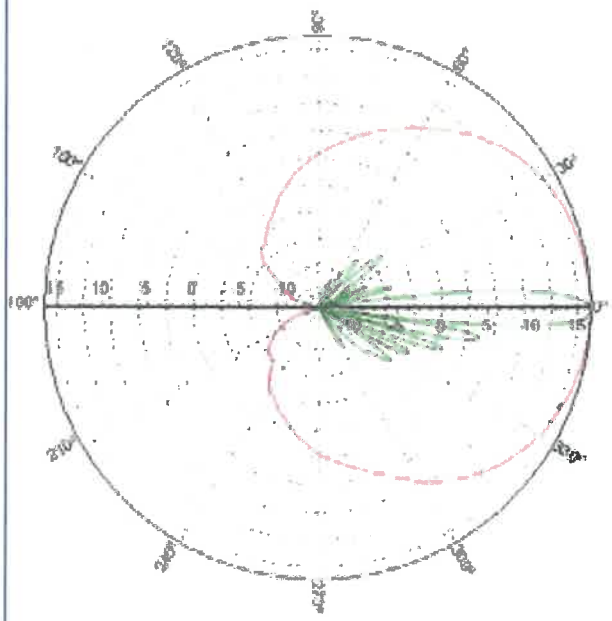
Donald L. Haes, Jr., Ph.D

Certified Health Physicist

APPENDIX A



Typical Vertical and Horizontal patterns; 900 MHz band



Typical Vertical and Horizontal patterns; 1900 MHz band

DONALD L. HAES, JR., PH.D., CHP

Radiation Safety Specialist

MA Radiation Control Program Health Physics Services Provider Registration #65-0017

PO Box 198, Hampstead, NH 03841 603-303-9959 Email: donald_haes_chp@comcast.net

STATEMENT OF CERTIFICATION

1. I certify to the best of my knowledge and belief, the statements of fact contained in this report are true and correct.

2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are personal, unbiased professional analyses, opinions and conclusions.

3. I have no present or prospective interest in the property that is the subject of this report and I have no personal interest or bias with respect to the parties involved.

4. My compensation is not contingent upon the reporting of a predetermined energy level or direction in energy level that favors the cause of the client, the amount of energy level estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

5. This assignment was not based on a requested minimum environmental energy level or specific power density.

6. My compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.

7. The consultant has accepted this assessment assignment having the knowledge and experience necessary to complete the assignment competently.

8. My analyses, opinions, and conclusions were developed and this report has been prepared, in conformity with the *American Board of Health Physics* (ABHP) statements of standards of professional responsibility for Certified Health Physicists.

Date: August 25, 2016

Donald L. Haes, Jr., Ph.D

Certified Health Physicist

ENDNOTES

[i]. Federal Register, Federal Communications Commission Rules; *Radiofrequency radiation; environmental effects evaluation guidelines* Volume 1, No. 153, 41006-41199, August 7, 1996. (47 CFR Part 1; Federal Communications Commission).

[ii]. Telecommunications Act of 1996, 47 USC; Second Session of the 104th Congress of the United States of America, January 3, 1996.

[iii]. 105 CMR 122.000: Massachusetts Department of Public Health, *Non-Ionizing Radiation Limits for: The General Public from Non-Occupational Exposure to Electromagnetic Fields, Employees from Occupational Exposure to Electromagnetic Fields, and Exposure from Microwave Ovens*.

[iv]. ANSI/IEEE C95.1-1999: American National Standard, *Safety levels with respect to human exposure to radio frequency electromagnetic fields, from 3 KHz to 300 GHz* **(Updated in 2010)**.

[v]. National Council on Radiation Protection and Measurements (NCRP); *Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields*, NCRP Report 86, 1986.

[vi]. OET Bulletin 65: Federal Communications Commission Office of Engineering and Technology, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*; Edition 97-01, August 1999.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2016-ANE-3516-OE
Prior Study No.
2016-ANE-1381-OE

Issued Date: 10/18/2016

Kevin P. Delaney
Industrial Tower and Wireless, LLC.
40 Lone Street
Marshfield, MA 02050

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower Concord
Location:	Concord, MA
Latitude:	42-30-01.96N NAD 83
Longitude:	71-22-03.50W
Heights:	193 feet site elevation (SE)
	120 feet above ground level (AGL)
	313 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 04/18/2018 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (817) 222-5922. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-3516-OE.

Signature Control No: 303297985-307646631 (DNE)
Debbie Cardenas
Technician

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2016-ANE-3516-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Jack Buckley, *Director*

September 21, 2016

Carl Gehring
Bell Atlantic Mobile of Massachusetts Corporation, Ltd. Dba Verizon Wireless
400 Friberg Parkway
Westborough MA 01581

RE:		
	Project Location:	1400 Lowell Road
	Project Description:	Cell Tower
	Town:	CONCORD
	DEP Wetlands File No.:	137-1312
	NHESP File No.:	**15-34674**

Dear Applicant:

The Natural Heritage & Endangered Species Program of the MA Division of Fisheries and Wildlife (the "Division") has received and reviewed revised plans (August 9, 2016) for the subject project.

The Division finds that the revised plans do not change our previous determination that this project **will not adversely affect** the actual Resource Area Habitat of state-protected rare wildlife species and **will not result in a prohibited Take** of state-listed rare species (Division letter August 28, 2015) and that previous determination stands. Issuance of an Order of Conditions approving the project as currently designed is consistent with the Interests of the WPA strictly related to rare species. A copy of any final Order of Conditions shall be mailed or hand delivered to the Division simultaneous with sending to the applicant as required pursuant to 310 CMR 10.05(6)(e)).

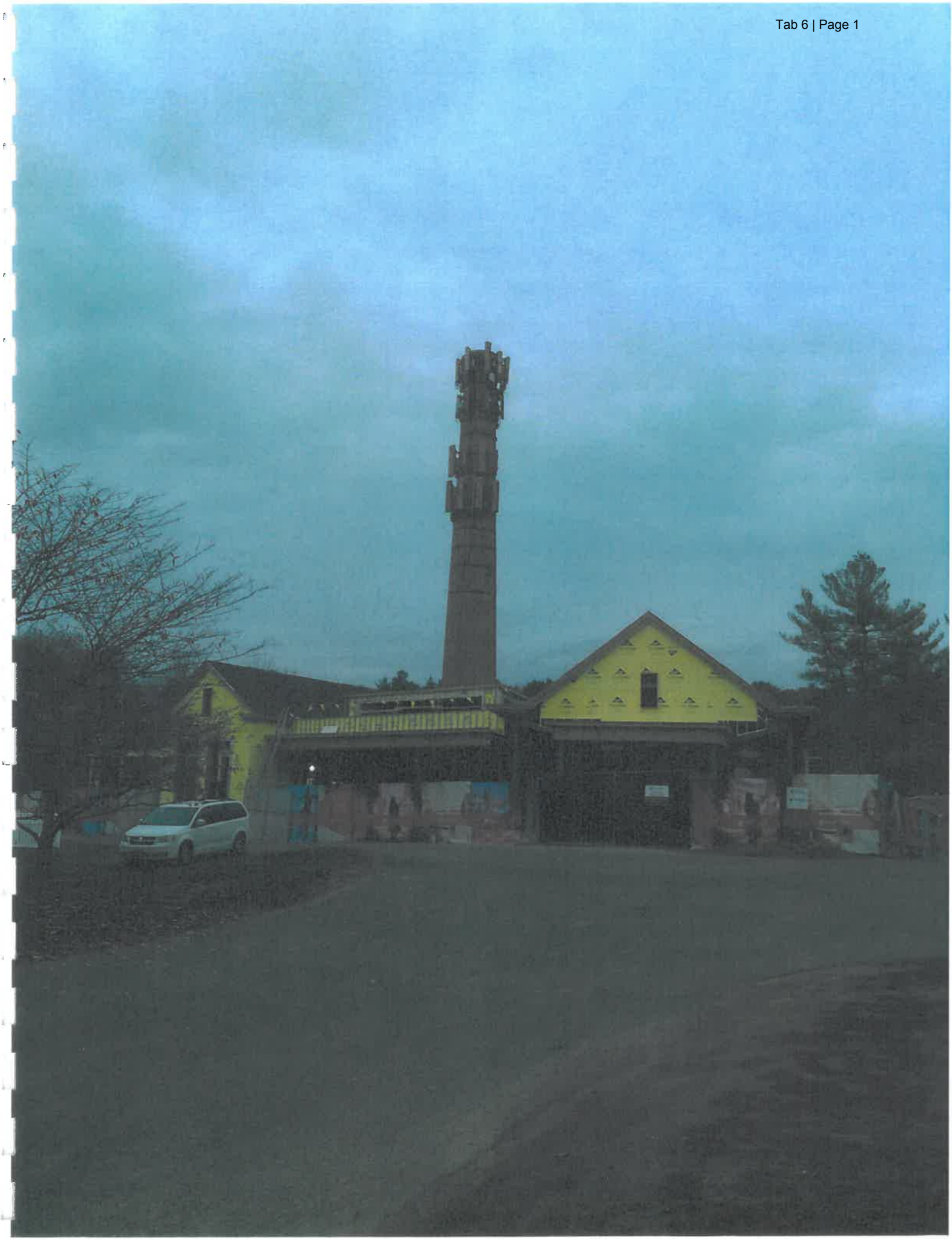
We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. Any activity not included in the current filing and located within *Priority Habitat* may require an additional filing with the Division for review if not otherwise exempt. If no physical work is commenced on the above proposed project within five years from the date of issuance of our original letter or there is a material change in the plans that were submitted to the Division, updated information and/or plans must be sent to the Division for review prior to any work.

Please contact Daisy Medeiros, Endangered Species Review Assistant, at (508) 389-6357 with any questions or comments.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

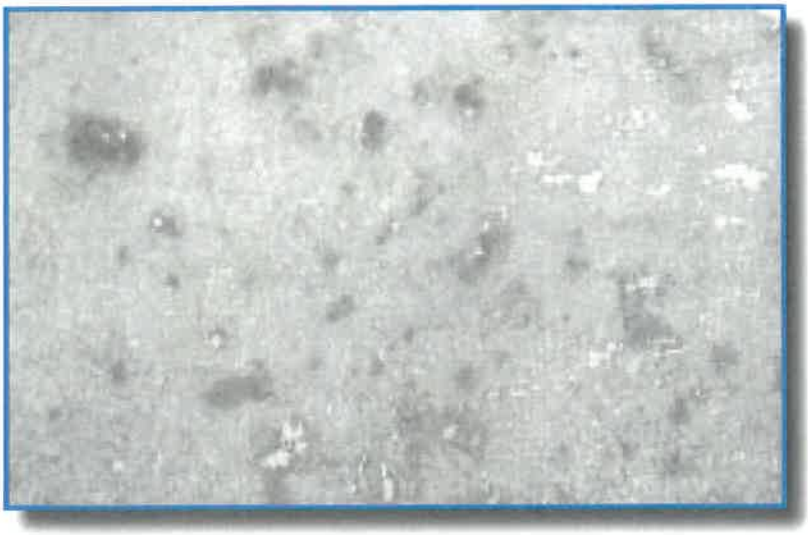


Industrial Communications

Tower Facility Color Board

Antenna

Material: Plastic or Fiberglass
Color: Grey

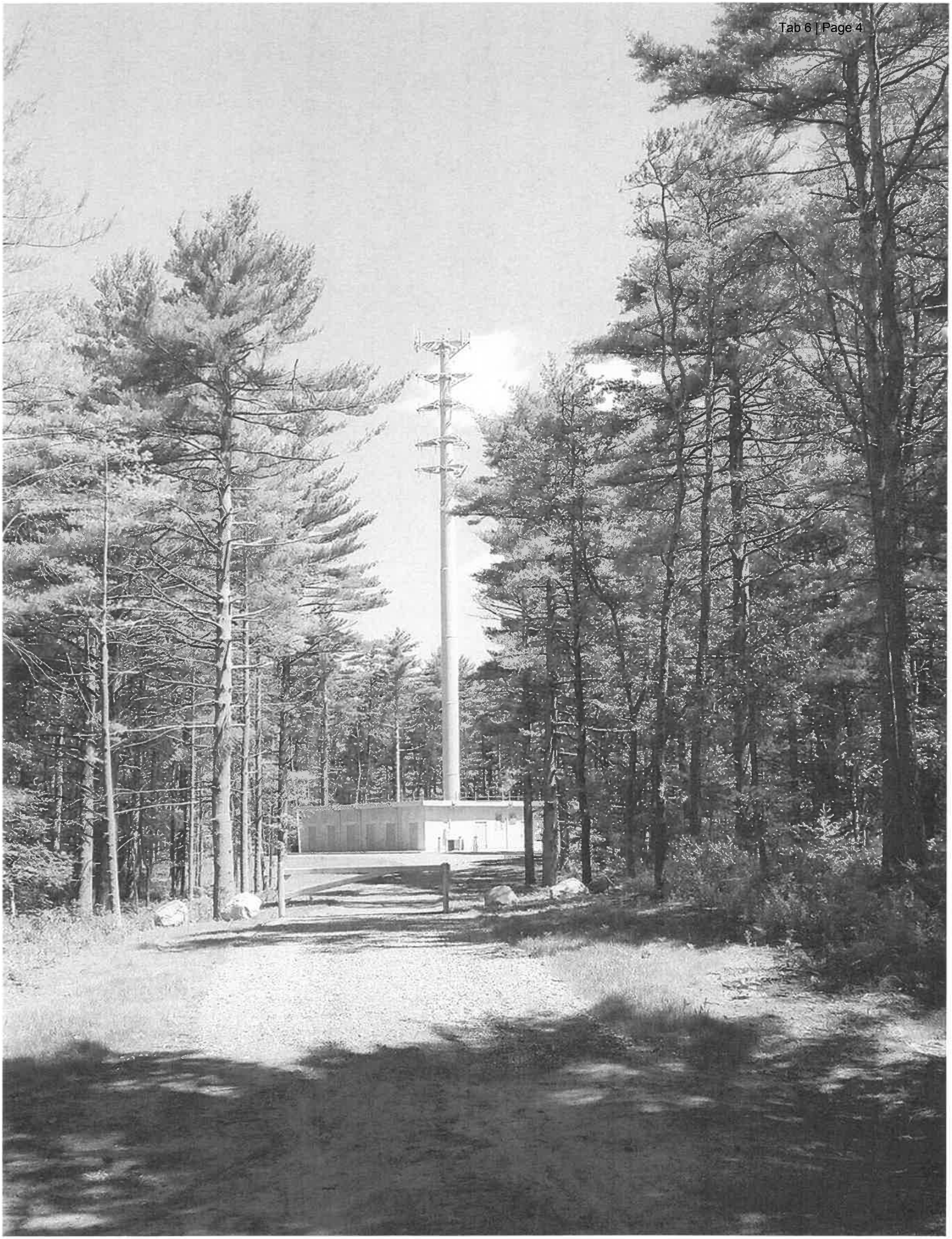


Tower

Material: Galvanized Steel
Color: Silver/Grey

Foundation

Material: Concrete
Color: Grey



Industrial Communications

Industrial Communications & Electronics LLC
40 Lone Street
Marshfield, MA 02050
781-837-7000 Fax 781-837-4000

Proposal Submitted To:		Phone	Date
Industrial Tower and Wireless		781-319-1011	11-18-2016
Street		Job Name	
		120' Monopole	
City, State and Zip Code		Job Location	
		Concord, MA	
Architect	Date of Plans	Attn:	Job Phone
		Kevin Delaney	

We hereby submit specifications and estimates for:

Removal and disposal off site of a 120' Monopole tower. Scope of work to include;

Disassemble tower			Labor	$ 5,260.00
Load and truck tower off site to designated storage facility (T.B.D.).				$ 1,420.00
Demo tower foundation to below grade and back fill	Labor $ 480	Equip. $ 2000		$ 2,480.00
Remove and dispose of fence	Labor $960	Disp. $ 240		$ 1,200.00
Disconnect and remove power and telco from site.			Labor	$ 960.00
Supply of crane to perform scope of work				$ 2,000.00
Obtain permits if required				

Notes & Exclusion:
Delays due to weather, Town of Concord, or owner
Quote assumes clear access to site
Owner to be responsible for having power to site shut off.
Quote is based on trucking distance from site to storage facility not exceeding 250 miles.

We Propose hereby to furnish material and labor – complete in accordance with above specifications, for the sum of:

Thirteen Thousand Three Hundred Twenty Dollars ($ 13,320.00).

Payment to be made as follows:
To be determined

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specification involving extra costs will be executed only upon written orders, and will become an extra charge over and above the sum quoted in this Proposal/Contract. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance. Any and all costs incurred by IC&E to obtain collection shall be added to the balance.

Authorized Signature

Note: This Proposal/Contract may be withdrawn by us if not accepted in __ days.

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____ Signature _____